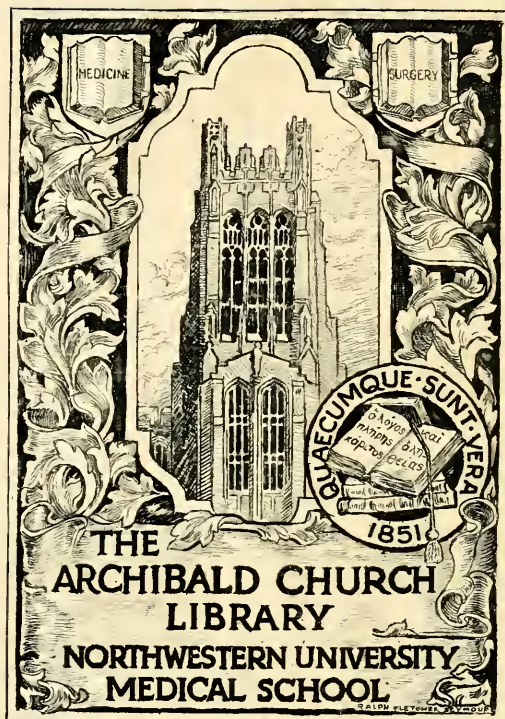
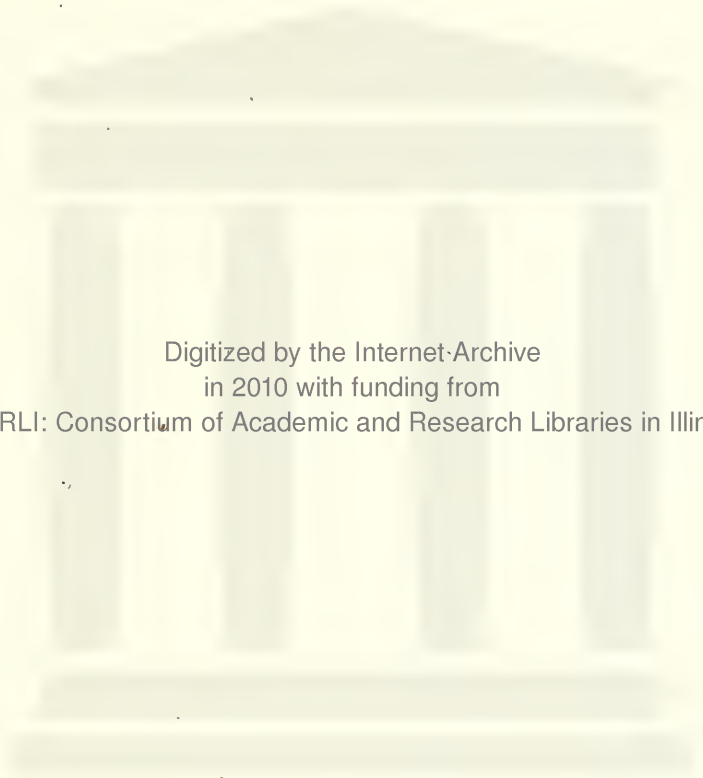


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THE OPERATIVE TREATMENT OF RETRODIS- PLACEMENTS, WITH A NEW OPERATION; INTRAMURAL TRANSPLANTATION OF THE ROUND LIGAMENTS.¹

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In the presentation of the subject in hand, I wish, for the sake of brevity, and in order not to sacrifice clearness, to make the following propositions:

1. That retrodeviations of the uterus are frequent;
2. That they are pathological *per se*;
3. That they tend to create further pathology;
4. That, because of the symptoms which they produce and the further pathology which they create, they are, with few exceptions, deserving of treatment.

Accepting these generally believed statements as facts, and leaving a discussion of their merits for another time and place, we may at once enter into a consideration of the best treatment to be applied. This will best be understood after a review, though brief, of the normal position and

¹Read before the Chicago Medical Society, June, 1905.—Reprint from Surgery, gynecology and Gbstricls, November, 1905.

supports of the uterus, and a consideration, though brief, of the etiological factors of retrodisplacement.

POSITION AND SUPPORTS OF THE UTERUS.

The uterus lies in the pelvis, with the cervix directed backward, and held up well toward the hollow of the sacrum by means of the sacrouterine ligaments. The fundus is directed forward, and held by means of the round ligaments acting as guy-ropes. The broad ligaments, running from the sides of the uterus to the pelvic wall, together with the previously named ligaments, and the connective tissue, blood-vessels, nerves, etc., act as carriers of the uterus and adnexa. Much aid is given to these carriers by the intact pelvic floor. With the bladder empty, the long axis of the body of the uterus is nearly horizontal, while that of the cervix is continued backward from that of the body, and slightly downward. There is now a range of normal movement and a wider range of abnormal movement. Under normal conditions, the uterus is so nicely balanced that with each step, respiratory effort, cough, or jar, there is a corresponding movement of this organ.

CAUSES OF DISPLACEMENT.

Being thus suspended, it is evident that the uterus will be displaced by,—1. Anything which increases the weight of the uterus; 2. Anything which lessens the carrying power of its supports,—the ligaments, cellular tissue, pelvic floor, etc.; and 3. Anything which makes traction or exerts force in the wrong direction.

The conditions which may produce one or more of these harmful influences are numerous. A torn pelvic floor may lessen the carrying power of its supports, and a rectocele and cystocele produce traction downward upon the cervix. A chronic congestion will cause the uterus to take a lower position, on account of increased weight. Inflammatory adhesions contract and make backward traction upon the uterus. But, whatever the causes of the retrodisplacement, the almost constant results of those causes are, 1. Elongated sacro-uterine ligaments, allowing the cervix to go downward and forward; and 2. Elongated round ligaments, al-

lowing the fundus to go backward; 3. The broad ligaments are also somewhat stretched, allowing the uterus to take a lower position.

Co-existent with the retrodisplacement, we may have adhesions, inflammation, pus-tubes, cystomata, fibroids of the uterus, and numerous other complications, and many of these may bear the relation to the retrodisplacement of cause or effect.

The diagnosis should determine not only the fact of displacement, but the presence or absence of complications, and the nature and extent of the complications. The length of time that the retrodisplacement has existed and the circumstances of the patient will also, to some extent, determine the procedure to be chosen.

It is well to bear in mind that we are dealing with a condition which is troublesome, which tends to create further pathology, but which has no considerable mortality. The treatment, then, must not only look toward the amelioration of the symptoms, but, essentially, it must be safe. If an operation is chosen, it is usually an operation of election, and not "last-resort" surgery. In an almost fatal case of appendicitis, a slightly less fatal operation may be chosen; but in elective surgery an operator and an operation that assure the least possible mortality should be chosen.

TREATMENT.

The dash of surgery sometimes carries us far afield and this has been shown in dealing with retrodisplacements. Too little stress has of late years been laid upon the non-operative treatment.

Having pointed out this treatment in a previous paper (*Medical Standard*, Dec., 1894), I wish in this connection only to indicate the class of cases in which we should use non-operative treatment, and then take up the consideration of the operative treatment.

Cases without intra-abdominal complications, with a fair pelvic floor, and with only moderate pathology in the uterus, may be given the non-operative treatment if the conditions are such that the patient can remain under obser-

vation and treatment for some months. Better results are to be attained in these cases if only a short time has elapsed since delivery, or since the retrodisplacement began. The non-operative treatment may be expected to lessen the symptoms in many cases that refuse operative treatment, and may at times be useful as a preparatory treatment to operation.

After we have been as conservative as is consistent with the welfare of our patients, we still have a large percentage of cases which must have something more than non-operative treatment.

OPERATIVE TREATMENT.

In choosing an operation for retrodisplacements, there are certain essentials which should not be ignored, no matter what the condition present or what the operation chosen.

1. The operation must have the slightest mortality, *per se*, and be in safe hands.

2. The incision must allow the correction of the complication.

3. The operation must create the least possible pathology.

4. In a child-bearing woman, it must allow of no interference with future pregnancy.

5. It must assure us of a permanency of results, with or without future pregnancy—must stand Goldspohn's "double test of pregnancy."

6. It must have the least possible morbidity,

When we consider that the causes of retrodisplacement are anything which increases the weight of the uterus or decreases the carrying power of its supports, or exerts force in the wrong direction, it will be seen that a beginning retrodisplacement may be checked by a curettage, or a repair or amputation of the cervix, or the removal of the polyp, or the repair of the perineum, or two or more of these procedures. But this disposes of only a small percentage. There yet remains a large class of cases in which something additional must be done to correct or take the place of elongated

attenuated ligaments. We would divide these cases into three sections:

- A. Those with no intra-abdominal pathology;
- B. Those with minor intra-abdominal pathology;
- C. Those with extensive intra-abdominal pathology.

For those cases which fall under section A, we have standing out pre-eminently the most excellent operation of Alexander, sometimes called the Alexander-Adams operation, and sometimes the Alquæ-Alexander-Adams operation. For this excellent operation these men deserve great credit, but have received a full measure of condemnation. Used as it was in cases with complications, in which it was contra-indicated, it either failed to hold the uterus, or failed to relieve the patient of the symptoms. This, with its modifications, picking up the round ligaments outside of the peritoneal cavity, creates no intra-abdominal complication where there are none, meets the above-named essentials for an operation, and allows us to feel that even in a young unmarried woman we have left her as a woman should be. The only regret is, that so many cases fall in section B and C, because of some complication which necessitates opening the abdomen. The danger of opening the abdomen is not so great as when Alexander urged the advantage of this extraperitoneal operation, and yet we have not attained that science that we can save every patient, nor can we even foretell which one will be lost, and until that time comes we cannot ignore the advantage of an extraperitoneal operation in those cases in which there is no intra-abdominal trouble, even though our mortality be slight.

Mackenrodt's operation of fixing the anterior surface of the uterus to the vaginal wall has been done in these cases, but with disastrous results in some cases in which pregnancy followed.

Cases in section B require an opening in the abdomen. It is not desirable, with the time that we have at hand, even to mention the several scores of operations which have been devised for complicated cases of retrodisplacement. Suffice it to say that a number of worthy operators have thought

so well of the Alexander operation, that efforts have been made on their part to extend this operation to these cases having minor pathology. Breaking up adhesions and doing minor work through the posterior cul-de-sac has been done, thus preparing the case for the Alexander operation. Goldspohn follows the round ligament into the abdomen, and through the dilated internal inguinal ring breaks up adhesions, resects or removes an ovary, removes a tube, etc: In my own experience I have found this a valuable addition to our operative resources. In these cases with minor pathology, it seems best in the days of ventro-suspensio-fixation to work through an undesirable opening, in order that a more desirable operation could be performed. Now the writer performs the Goldspohn-Alexander operation less frequently, and Dr. Goldspohn has personally stated that he has found the need for his operation decreased since the advent of recent round ligament operations. However useful the above operations may be for cases with no complication, or with only slight complication, we now come to the consideration of those cases of retrodisplacement in which there is sufficient intra-abdominal pathology to require the best possible opening for doing the work: dealing with the pathology becomes of primary importance, and the operation for the retrodisplacement conforms to the necessities of the case. Some have here chosen the vaginal route, but it has always seemed to the writer that reason was against this, both as to the route for operating upon the pelvic pathology and as to the operation that could be performed for the retrodisplacement. A low suprapubic incision $1\frac{1}{2}$ to $2\frac{1}{2}$ inches in length, enlarged if necessary, is the opening of choice. Through this opening structures can easily be reached and inspected, and injuries to the bowels, ureter, etc., may be prevented, or if produced, recognized and repaired.

Now that the median incision is used and the work in the abdomen done, we have to make a choice of an operation for holding the uterus forward. Ventro-suspensio fixation has been common, but has only ease of performance to recommend it, and it is now getting to be as unpopular as it

was once popular. The unnatural attachment, the false ligament, and the uncertainty as to the size and strength of the ligament, and the harm it may do should pregnancy occur, cause one to wonder that the operation could have become so popular. In performing ventro suspensio-fixation one is "between the devil and the deep sea." He performs fixation, and to ease his conscience calls it suspension; or he performs suspension and trusts that it will stay "fixed." He would not, if called upon to operate upon a pregnant woman, attach the uterus to the abdominal wall, yet he attaches the uterus that may become pregnant two months thereafter. He leaves an ovary or a portion of an ovary, hoping that the uterus will functionate, and then attaches the organ so that it cannot. He puts sutures deep in the uterus, attaching it firmly, and uses catgut that it may be temporary. He creates a pathology in the false ligaments, that in another patient he would perform laparotomy to remove if the condition was diagnosed. Edebohls, in some cases, uses the median incision for intra-abdominal work, and then makes the side incisions for the Alexander operation. Martin suspends the uterus by means of a strip of peritoneum drawn through the uterine wall. Many efforts have been made to utilize the round ligaments when intra-abdominal work is necessary. We should divide these operations into two classes; 1. Those which retain the proximal or strong portion of the ligament as a support. 2. Those which retain the distal or weak, attenuated portion of the ligament. The latter class of operations, of which there is a large number (Wylie, Mann, Dudley, Webster, Baldy, Ries), places confidence upon the outer, weak end of the round ligament, of which this portion of the ligament is entirely unworthy. This has done much to condemn intra-abdominal operations upon the round ligament, and to cause operators to resort to ventro-suspensio-fixation when complications require the abdomen to be opened.

The former class of cases could well be subdivided into those which reach the round ligament external to the internal ring. through some more or less extensive and tedious

dissection (Noble, Barth, Sandberg), and those which secure the round ligament in the abdomen; where they are readily picked up (Gilliam, Ferguson, McGannon, Montgomery). The former have a decided drawback by reason of the dissection, but a decided advantage by reason of the normal relations of the round ligament to the internal ring and in the abdomen. The latter have an advantage in the readiness with which the operation may be performed, but are unfortunate by reason of the pathology which they create.

To secure all the advantages of the Alexander operation, and yet have an operation which could be combined with the median incision, and still avoid the creation of pathological conditions, as in the Ferguson-Gilliam operation, the writer began in 1903 to perform the following operation:

1. The abdomen is opened in the median line, through an incision $1\frac{1}{2}$ to 2 inches in length.

2. Intra-abdominal complications are dealt with.

3. The round ligaments are picked up with the author's rubber-jaw forceps, and a control ligature is thrown around each ligament, about $2\frac{1}{4}$ to $2\frac{1}{2}$ inches from the angle of the uterus. If they are exceedingly well developed, a longitudinal slit is made over the ligament, and the peritoneum not included.

4. The edge of the aponeurosis over the rectus muscle is now grasped close to the lower angle of the wound, and the author's curved ligature-forceps are carried between the aponeurosis and the rectus muscle, outward to the natural exit of the round ligament, the internal ring, where the forceps is guided into the abdomen by sight or by means of one or two fingers through the abdominal incision as a guide. It is not difficult to have the forceps follow the round ligament subperitoneally to the control ligature.

5. The forceps now grasp the control ligature, and it is withdrawn, and along with it is a loop of round ligament.

6. Each loop of round ligament, while being held by the control ligature, is sewed to the under side of the aponeurosis with catgut, about one inch from the median

line, and should the loops prove long enough, as they frequently do, they are sutured together in the median line over the recti muscles.

Tracing the round ligament, we now have it running from the uterus to its normal exit, the internal ring, then under the aponeurosis to the lower angle of the abdominal incision, close to the symphysis pubis, to the under side of which aponeurosis it is attached one inch from the incision. The ligament now retraces its steps to the internal ring, from whence it follows its normal course to labium majus. This leaves no opening for strangulation of the bowel. The ligament leaves the abdomen as its normal place and utilizes the normal structures as a pully for the round ligament. The uterus is now held by the very best part of the round ligament, a ligament which has capacity for evolution during pregnancy and involution thereafter.

The charge has been made against these internal operations on the round ligaments that they have no statistics in regard to pregnancy, but I maintain, and think rightly, that anything which can be said of the Alexander operation as regards pregnancy can be said of this. The ligament carrying with it the peritoneum will hold some cases of retrodisplacement that would fail to be held by the stripped ligament, as we have in the Alexander operation.

The nature of the operation has led the author to term it "*intramural transplantation of the round ligaments.*"

This operation has seemed to present the following advantages:

1. It may be employed where there are intra-abdominal complications of any extent, and through the best possible opening for dealing with those complications.

2. It is easy of execution through even a very small opening.

3. It creates the least possible pathology, forming no new ligament.

4. It utilizes the very best part of the round ligament, acting through the internal ring.

5. It has shown the highest efficiency in holding the

uterus forward and yet allowing the normal range of movement.

There are cases in which it seems wise to supplement the round ligament operation by a shortening of the sacro-uterine ligament.

There has been no effort in this paper to give a review of all the operations that have been proposed, but rather to give a clear working outline, and to present the author's slight contribution to the subject.

To conclude:

1. Retroversio-flexion, a frequent pathological condition, which tends toward greater pathology, is deserving of some form of treatment, and that the best for that particular case.

2. Sometimes the treatment should be, and sometimes is of necessity, non-operative.

3. Curative treatment oftentimes must be operative.

4. Any operation in any operator's hands must have a high percentage of permanent cures, an exceedingly low mortality, and slight morbidity, or it is to be condemned in that operator's hands.

5. Curettage, repairs of the cervix, repairs of the perineum are frequently required, and in some beginning cases all that is necessary.

6. The Alexander operation is an operation of choice with no intra-abdominal complications.

7. The Goldspohn operation, or some other method of extending the Alexander operation, may be chosen when dealing with minor complications.

8. The median suprapubic incision is the best route through which to attack complications, and should be chosen if the complications are extensive.

9. Ventro-suspensio-fixation is not to be chosen in any woman who may become pregnant, unless immediate termination of the operation is of the greatest necessity.

10. All operations upon the round ligaments which retain the weak distal end of the ligament presuppose a

strength in the attenuated outer end which frequently does not exist.

11. The utilization of the proximal strong end of the ligament for holding the uterus forward is highly desirable.

12. This is accomplished with almost a certainty of results and without the creation of new pathological conditions in intramural transplantation of the round ligaments here presented.

THE PROPHYLAXIS OF RESPIRATORY DISEASES

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At this season of the year when respiratory diseases are so common, it may be of interest to us to recall what we at this time recognize as the causes with a view to their prevention if possible.

We all recognize the paramount role which these diseases play in cutting short the too brief drama of human life in temperate latitudes, but many of us may underestimate their importance as agents of death in sub-tropical and tropical countries.

This view is natural one, for we insensibly associate cold and chill with this type of disease and with cold climates. The recorded experience of Nansen, in the course of his long drift through the Arctic sea shows, however, that extreme low temperatures, which are continuous, act as the most efficient preventive to respiratory disease. His ships company were entirely free of coughs and colds for the two years of their life on the ice packs, but began to manifest such troubles when land, and the suddenly changing temperature of lower latitudes was reached. Dr. Jean Charcot in his recently published account of a year spent in the Antarctic regions of eternal frost, corroborates Nansen's experience in this respect. Man is subjected to greater, and more sudden variations of heat and cold, of dryness and moisture, in tropical regions than in more temperate zones. The chance of a sudden chilling of the skin, and respiratory mucous surfaces is common to all climates and is doubtless

in all a most prominent factor in causing respiratory disease. In the lay mind and in too many professional minds cold and chill have assumed undue prominence and other more important etiologic factors have been forgotten. Preventive measures on the part of the people are even now directed most in accord with this view, and to prevent loss of body heat by radiation and evaporation, they put on more clothing, they overheat their dwellings and neglect ventilation.

We as physicians know that cold and chill are at most predisposing causes of this great class of disease, without influence in the absence of the specific and determining factor, the bacteria of infection. These micro-organisms we know to be present in all latitudes and among all peoples. In the frozen north they are held in the icy grasp of low temperatures, and despite cold and chill no respiratory disease is evident in man. The germs thrive best unfortunately at precisely those temperatures best suited to the human race.

The normal and physiologic man, however, presents to all pathogenic micro-organisms, a stony soil upon which to grow and reproduce. Moreover this healthy man has numerous safeguards against the entry of these germs—which have been slowly and laboriously made capable of such successful warfare by repeated battles through the ages of his evolution on earth.

At the entrance to the nose the cilia or hairs, covered as they are with a sticky secretion, screen out the coarsest particles of organic and inorganic matter from the inspired air. The finer particles are snared by the mucous covering, the membranous living of the cavities and are gently, yet continuously propelled toward the nasal orifices for extrusion by the living cilia of the surface epithelial cells. The lachrymal secretion aids by virtue of its solvent and antiseptic properties. Observe the wonderful conformation of the walls of the nasal cavities so adopted that the inspired air is exhibited again and again to the mucous surfaces for cleansing, moistening and heating purposes, in the course of its passage to the larynx.

When breathing by this natural channel is impossible and the air must be inhaled through the mouth all such preparation is lost, and resulting infection of the pharynx, larynx and lungs must occur sooner or later.

The most general and prolific cause of respiratory disease may then be said to be all deviations from the normal which result in partial or complete obstruction of the nasal passages and produce as a natural sequence mouth breathers. Perhaps the most striking because the most common example of the results of mouth breathing are seen in the youthful and innocent victims of adenoid growths in the nasopharynx. We are all familiar with the dull and vacant expression, the open mouth, and the deformed and poorly developed chest, so evident to the observer in these cases.

Similar results as far as breathing capacity is concerned are constantly evident in practice as a result of deviations of the septum, nasal spurs, hypertrophies of the turbinate bodies, and nasal polypi. The vast majority of these cases only come under observation when some severe respiratory trouble presents for relief. Indeed recently I have made a diagnosis of incipient phthisis pulmonalis in four cases, all in young men from eighteen to twenty-three years of age, in each of whom was found partial or complete obstruction to usual breathing. Again observations of the throats of pupils in the charity schools of London have emphasized the etiologic importance of tonsillar disease in the production of tuberculosis. Many of these poor children suffered likewise from adenoids, and this doubtless explains the tonsillar infection and hypertrophy.

The prevention of respiratory disease should therefore first of all include the removal of adenoids, diseased tonsils, nasal spurs, polypoid growths, the correction of deviated septums and a restoration of the mouth breather to normal nasal breathing. In this way, and in this way only, may proper lung capacity be developed and preserved. This results in proper oxygenation of the blood—an important accessory to the maintenance of a normal resistance to all infections.

The matter of proper food in my opinion comes next in importance as prophylactic agent in the consideration of respiratory disease. The people of this favored country suffer less from a lack of sufficient food than those of any other nation on the face of the earth. Insufficient food will most certainly fail to nourish and induce a diminished resistance throughout the human organism. As a nation we are troubled with a superabundance of supplied food, which results when digested and absorbed in a plethora of blood and of those tissues and organs which store up elaborated materials in our body against a time of need. This diminishes resistance, and often invites disease by the inevitable overwork of the eliminating organs. More frequently our abundant supply of food results in disordered digestion and imperfect absorption—a condition of malnutrition results from the disordered metabolism. We starve, many of us, in the midst of plenty. There results a diminished resistance as before—a favorable culture medium is prepared for germs constantly present in the inhaled air and disease results. The interesting experiments of Prof. Chittenden and others show that nitrogenous equilibrium can be maintained on a consumption of one half the flesh food that the average American eats. If this be so, consider the amount of energy wasted in oxidizing the surplus, and wear and tear of the eliminating organs incident to its removal from the body. If the surplus be undigested, consider the intestinal putrefaction that results with the danger of a greater or less absorption of the elaborated toxins, and the effect of such auto toxemia upon the resisting powers of the organism as a whole. It would seem that the demands of a perfect nutrition would be better fulfilled by a simpler dietary which would consist of less animal food and a more generous proportion of fresh fruits, cereals and vegetables. With reference to the cereals, they should consist of the thoroughly cooked grains in their natural state deprived of their innutritious husks, but not subjected to the milling and grinding processes to the extent that mastication be unnecessary. The many so-called health foods and breakfast foods are to

this extent pernicious, that they render unnecessary the normal mastication of cereal foods.

In close connection with a proper and regulated food supply, emphasis must be placed upon the amount of sleep necessary to health. This should be at least eight hours for the average mature person, and a slightly longer period for the child. Proper muscular exercise in the open air is an absolute essential to perfect health. A brisk walk of at least one hour each day for those of sedentary habits are probably the most convenient to fulfill this indication. Proper rest for the mind and recreation can be obtained most often by a change of work. The pursuit of pleasure and recreation may however prove a curse instead of a blessing if pursued to an intemperate degree. Especially so if the evenings be spent in theatres, lecture rooms or crowded assemblies, where the ventilation is poor and germs abound. The cultivation of temperate habits in respect to food, work and play would result in a better performance of function and a heightened bodily resistance. Such habits moreover, tend to extend to the mind as well, and produce that equable temperament which is neither highly elated by good fortune, nor unduly depressed by the reverse. Such a state of contentment may be attained with no sacrifice of ambition and with little curtailment of the normal output of the healthy mind and body. It is the direct antithesis of that fearful unrest that is so often noticed among us, and that seems to the stranger from abroad our most prominent American characteristic. If every individual were able more carefully to judge his latent powers and would then limit his ambition to something commensurate with his abilities we would see a general increase in our racial stamina and a corresponding decrease in the incidence of infectious disease.

In the matter of bathing we have much to learn of the Japanese. Every human being should take a daily bath, adopting the temperature of the water to the individual reaction—taking it as cold as may be consistent with a healthy glow following a brisk rubbing. This accustoms the skin surface in general to sudden changes of temper-

ature and guards against the occurrence of a chill which means in every case greater or less congestion in some internal parts of circulatory system, with a consequent lessened resistance at some point.

One of the most effective agents in the production of respiratory disease is no doubt our system of steam heating. For we see a greater incidence of such disease in cities where steam heating is general than in rural districts. Steam heat is a dry heat, and is also subject to too great fluctuation. The ideal temperature of our houses should be 70° and this should be continuously maintained. Moreover, the humidity of this superheated atmosphere should be nearly that of the air without. This can easily be accomplished with little work by keeping earthenware jars filled with water in the living rooms, or metal receptacles attached to radiators. By constant evaporation from these, the air now too dry would be moistened equably, and the mucous membranes of the respiratory tract would be relieved. The almost universal lack of any system of ventilation in even our most modern houses, is a source of great trouble. At present if rooms become overheated, the windows must be opened with the presence of a draught, and a change of temperature suddenly from 10 to 20° . This results in chills of mucous and skin surfaces, a lessening of resistance and consequent colds from infection. Some simple system of ventilation by means of screened intakes at the ground floor of buildings, and having communication with every room at the floor level should be enforced by our building ordinances. Proper openings at the ceiling level, should conduct enough of the superheated air to the roofs to insure a change of atmosphere at least every hour.

In this connection no one who has ever examined the dark lungs of a city dweller in the dead house, can have any doubt but that the presence of so many carbon particles derived by way of the respiratory tract from the smoke polluted air, is an important factor in the production of respiratory disease. Such an accumulation of inorganic matter in the lungs must interfere with their capacity, and be

a source of irritation and diminished resistance to disease germs. Physicians should bring these facts constantly to the notice of the public, that vigorous effort be made to abate the smoke nuisance in the interest of health.

The matter of proper clothing well repays careful investigation. - We are all prone to wear too warm and heavy underclothes, with the result that when in doors we perspire too freely, and often get chilled on going out doors. Underclothing should be light weight and the material should be porous enough to permit of free evaporation of the moisture of the bony surface. Cotton and wool seems best adapted to the majority. Cotton alone is sufficient for those who are well supplied with adipose tissues. Several changes in the weight and thickness of the outer garments should be made according to the season.

As it has been abundantly proven by repeated observations that the pneumococcus is a normal inhabitant of many healthy mouths, it would seem reasonable to cleanse the buccal cavity morning and evening, brushing the teeth with soap and water and then rinsing the mouth and throat with an antiseptic solution. In the same way the nostrils should be washed out with soap and water daily, and upon the least evidence of coryza the nares should be swabbed with a pledget of cotton saturated in a 5 per cent protargol solution. All respiratory diseases should be regarded as communicable, and patients should be warned of this and kept apart from the well as much as possible. Sputum and nasal discharges should be disinfected or burned. Public ordinances against spitting should be rigidly enforced. Tuberculosis and pneumonia should be reported to the health authorities in every instance and the same precautions should be practiced as are applied to other infections. The people should be educated to regard all respiratory troubles as possibly communicable, and should be warned especially against kissing those suffering from such diseases and against sleeping with them, or using clothing, dishes or any objects which might be contaminated.

Such simple means of prevention act together to pro-

duce and maintain the healthy human body. In other words, a body having within itself the means of its own protection against disease.

SYPHILIS OF THE KNEE JOINT.

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Syphilitic involvement of the joints is not rare; in fact, the writer believes it occurs more frequently than is commonly supposed, but its resemblance to other joint affections especially tuberculosis, accounts for frequent mistakes in diagnosis and failure to recognize the true nature of the trouble until serious damage has been done. With proper treatment, the prognosis in syphilis of the joints is so much better than in any other chronic joint affections, that an early diagnosis means much to the patient, and I have attempted to present this subject to you this evening in order to impress upon you the necessity of closer study of chronic joint cases and of absolutely excluding syphilis before any other diagnosis is made.

In childhood, syphilis has a predilection for the periosteum and epiphyses, and while a joint may secondarily become involved from prolonged disease in close proximity, it is not frequent, and primary joint syphilis is certainly rare.

In the adult, however, we find the articular and peri-articular structures are affected instead of the epiphyses, and the knee joint is the one selected more often than all the other joints combined. (1)

The disease occurs more frequently between the ages of twenty and forty, and women seem to be affected oftener than men. Why the knee should be involved so much oftener than the other joints may be because it is so liable to slight injuries and in the later stages of syphilis some manifestation of the disease, and especially gumma are liable to follow traumatism.

Syphilis of the knee may appear during the secondary

or tertiary stage of the disease, or may be an hereditary manifestation. Hutchinson (2) remarks that "In England, painless, symmetrical effusion into the knees has long been recognized as a symptom of inherited syphilis."

I do not believe it is a frequent form of hereditary syphilis, for I have never seen a case of syphilitic knee in which personal infection could be absolutely excluded.

There seem to be at least three varieties of joint syphilis. Hutchinson (3), indeed, describes four distinct forms, but, it is very doubtful if the second (parasynovial gummata) and fourth (chronic gummatous synovitis) forms of his classification could be differentiated clinically or post mortem.

Aside from the hereditary synovitis mentioned above, I believe three types of knee joint syphilis can be recognized clinically, viz.:

1. The acute synovitis of the secondary period, which appears suddenly, develops rapidly with some inflammatory signs, is coincident with the rash, pharyngitis and fever. It clears up under treatment with the other secondary manifestations, and without much, if any, damage to the joint. In these cases the trouble seems to be confined chiefly to the synovia.

2. Secondary involvement of the joint from osteal or periosteal gumma in close proximity. This form, in the opinion of most writers, is rare, though why it should be, when the tendinous insertions about the knee are frequent sites of gummatous nodes, is not easy to explain. When it does occur, it is usually brought about by the extension into the joint of a subperiosteal gumma in the condyle of the femur or head of the tibia, and on account of the marked swelling and tenderness of the bone, the boggy joint, the evident progression and destruction, and the severe pain, it is often mistaken for sarcoma,

3. The parasynovial form, the syphilitic chondroarthritis of Virchow.

This is the most common and most important form of all, and most closely resembles tuberculosis of the joint,

Occasionally other joints than the knee are affected, especially the elbow and wrist, but they are very rare compared with the knee.

In this form gummata develop in the subsynovial tissues or cartilage. The synovial membrane and capsule become much thickened, and fringing or fibrillation may occur, so that fungous-looking masses fill the synovial pouches. The cartilage becomes thinned in places, and pitted or gouged out in others. The brusae about the joint may become involved, and later extensive destruction of the articular surfaces may result, followed by fibrous adhesions.

There may be early considerable fluid in the joint, but later this usually disappears. The joint may be irregularly enlarged by synovial or periosteal enlargements of the inner or outer side of the joint.

Clinically, the condition is marked by slow development, chronic course, slight pain, and not much loss of mobility until late in the disease, when destruction of articular surfaces and adhesions have fastened the joint.

Usually a careful examination of the patient will reveal evidence of previous luetic signs. The history of undoubted infection or of secondary manifestations is important, but while all men, or women, are not liars, enough are to make a negative history of little value.

Without doubt the three most characteristic symptoms of syphilitic arthritis in the earlier stages are (1) the freedom from pain; (2) the absence of muscular spasm, and (3) the degree of motion permitted in the joint.

The virus of syphilis seems to have a peculiarly anesthetic effect upon the nerve terminals, and the painlessness of syphilitic lesions has been observed by nearly all writers.

Whitfield (4) takes exception to this, and thinks many syphilitic joints are overlooked, because they are painful. He reports four cases in which pain was marked. Except in those cases where the subperiosteal tissues are involved, I believe comparative absence of pain is the rule in joint cases.

In differentiation from tuberculosis of the knee, the absence of muscular spasm and flexion deformity, and the free motion until late in the disease, would be decisive, even if there was pain.

Osteo-arthritis of the knee, which might be mistaken for syphilis, is a disease of later life. The bony ends are enlarged, the articular cartilages are thinned only where pressure falls upon them, not filled with irregular holes, the joint edges become lipped, the course is very slow, synovitis is rare, and stiffness of the joint is a characteristic from the beginning.

Finally, let us confess that there are many cases, especially those of a late stage, where the joint is stiff, swollen, boggy, painful at times, and may be fixed in flexion deformity, which we cannot differentiate from tuberculosis, except by treatment. Why not try that?

I have yet to see or hear of a joint affected by tuberculosis, arthritis deformans, osteo-arthritis, or chronic rheumatism that was damaged by a course of mercury and iodides, but I have seen several labeled with some such diagnosis that got well under such treatment.

Make any tentative diagnosis you please to satisfy the patient, physician or friends, but, while you are applying plaster-of-Paris, antiphlogistine, liniments, or hot air to correct the deformity, or relieve the pain, give the patient under some guise or other a good stiff course of mixed treatment to satisfy yourself, and I venture to predict you may change your diagnosis—at least, privately—quite often.

92 State Street.

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1. Bowlby *Med. Chir. Trans. Lond.*, 1894, 43.
 2. *Br. Med. Jour.*, 1892, I, 787.
 3. *Loc. Cit.*
 4. *Practitioner, Lond.*, 1899, 675.
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THE PLEXUS

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MEDICAL DEPARTMENT

UNIVERSITY OF ILLINOIS.

CHICAGO.

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EDITORIAL.

We wish in the first issue of the PLEXUS of 1906 to address those of our readers who are in arrears in their subscription and by way of so doing we will preface our remarks by stating a few leading factors in the case.

First, it is obviously impossible to get print paper without making payment therefore.

Second, it is equally impossible to jolly the printer and his assistants into working without pay and

Third, Uncle Sam requires cash in advance to pay the postage on magazines as well as other mail matter.

With these facts set squarely before the delinquents, we need only add that we wish to get our subscriptions in better shape than they are at the present writing.

We are certainly giving you and have given you in the past and will give you in the future a dollar's worth for the dollar per year which you are to pay, and we must emphatically insist that arrearages be paid promptly.

LIBRARY NOTES.

The Quine Library has recently received a gift of which any library might be proud.

In response to a letter to Dr. Osler, soliciting one of his pictures for the library, a most kindly reply was received, stating that he had sent the desired picture and had also inclosed some others that might be desirable in a medical library. When the package arrived it contained a large autograph photograph of Dr. Osler taken since he began his work at Oxford, also a photograph evidently taken from an old painting and bearing the following inscription written by Dr. Osler. "Sir William Peltz, Professor of Anatomy, Oxford. Founder of the Science of Political Economy, from the portrait at Reading, Eng. Taken for Dr. Osler, October 1905.

The third picture is an old wood cut of Fracas, Torius Hiero Nimus, beneath which Dr. Osler has written, "Author of the celebrated poem Syphilis, 1530, (in which the word was first used) and the still more important work de Cest-agone 1546, from which dates our accurate knowledge of infectious diseases."

The study of the History of Medicine "which is but the study of medical biography," seems to be engaging the increasing attention of members of the profession, and "there is a growing tendency among physicians to honor our medical heroes," in support of these statements I wish to add a few statistics compiled by Dr. E. F. Cordell and published in *Medical Library and Historical Journal*, Oct. 1904. Seven medical colleges give a course of lectures in the History of Medicine.

Three medical colleges have Medical Historical Clubs. Johns Hopkins University, University of Pennsylvania, and University of Buffalo. The Medical Library and Historical Journal is a publication devoted to the interests of Medical History. The latest interest to be manifested in the subject of medical history was noted in the following which is copied from the Bulletin of the Chicago Medical Society. "All members of the Chicago Medical Society interested in the history of medicine will meet informally before the regular Wednesday evening session of Jan. 10, 1906, to organize an Historical Medicine Branch of the Chicago Medical Society."

The three pictures sent by Dr. Osler are being framed and will be hung in the general reading room.

We also wish to extend our thanks to Dr. Howard Kelly of Baltimore and Dr. J. D. Bryant of New York, for most excellent photographs which they have sent for the Quine Library, and which are being framed.

The following articles written by members of the Faculty have been noted in recent medical journals.

Dr. Wm. Allen Pusey—The Use of X-Rays—Carcinoma. *Annals of Surgery*, Dec., pp., 910-918.

Dr. Bayard Holmes, Brown Atrophy of the Heart as a Result of Cholecystitis and as a Complication of Cholecystectomy. *Annals of Surgery*, Dec., pp. 918-936. Dr. H. L. Mettler. *Neurological Clinic*. *Clinical Review*, Jan., pp. 241-250.

Dr. C. W. Barrett, The Operative Treatment of Retro-displacements, with a new Operation Intramural Displacement of the Round Ligaments. *Surgery, Gynecology and Obstetrics*. November, pp. 417-424. Dr. Bayard Holmes, Indications for the Treatment of Cholecystitis. *Medical Standard*, October.

VALLEY COUNTY MEDICAL ASSOCIATION.

The Valley County Medical Association met Jan. 9, 1906 at the office of Dr. Chester A. Brink, (P. S. '93) Ord, Neb. Dr. Brink delivered an address on Electro Therapeutics. Several other interesting papers were read by members of the Association.

SENIOR NOTES.

According to schedule the class was to resume work January 3, in the New Year, but the blizzards raging in the west during vacation were not reckoned with, when that date was fixed. According to the story of some of the seniors, who spent vacation in Minnesota and in the Dakotas, the snowdrifts along the railroad tracks obstructing their progress towards Chicago piled up to the most fantastic dimensions. However these reports are not entirely reliable as there might have been other and equally valid reasons for their delay in returning. Be that as it may, the consequence however was that the classes and sections were rather small during the first few days after opening of the college. They have since been rapidly increasing with every train that has reached the city, so that at the present writing it is fair to assume that we are all here excepting perhaps one or two habitual lingerers.

The members of one of the sections in obstetrics were severely censured the other day by one of the quiz-masters for their faulty spelling and ungrammatical construction of sentences when writing examinations. Some mis-spelled words from the last examination papers were placed on the blackboard, which in the mind of the quiz-master served as glaring evidence of a neglected preliminary training.

While it is true that poor spelling and grammar are symptoms of illiteracy, it nevertheless remains a fact that the best educated man or woman when under the strain and impending doom of an examination and the mind wholly occupied with the subject matter will commit the grossest of literary errors. The time that generally is allotted to an examination is only long enough at best to allow the student to throw a few facts into a heap, it being out of the question under such circumstances, that there can be any thought of choice expressions, correct punctuation and faultless syntax. We would conclude therefore that the language employed in writing an examination is not an index of a student's academic education.

If any argument arises between members of the class

and the quizmasters in any of the sections we will let you loan Nathanson from section M. to P. to represent the interests of the class. Be sure to bring him back, however, for we may need him ourselves after the next examination in obstetrics.

A few of the Seniors served their time in the Ghetto during Christmas vacation. You who enjoyed the comforts of home, imagine what a desolate Christmas Eve it must have been for those who occupied the dungeon on Jefferson street with the cat and an old obstetrical chair as companions. Keller has become even more so than ever before introspective as result of his experience.

JUNIOR NOTES.

The Juniors are all able to sit up and answer to the roll call but that is about all you can say for them. A large number seem to be suffering from that tired feeling. A common sequel to vacation fever.

Have you got the grippe? Never mind, go to Siebert and be cured. Orangeine does it.

The annual reception in honor of the Seniors, known as the Junior Promenade, was held at Illinois Hall on December 14th, 1905. Thanks to the diligent efforts of the president, the various social committees and the co-operation of the members of the Junior class the event was a success socially and financially. So well indeed was the management carried out in every particular that the members of the Senior Class, the guests of honor, openly admitted that the event surpassed in its execution the reception given by themselves the year before.

The Juniors, Seniors, Alumni and faculty were well represented, there being nearly six hundred present. Dancing was the favorite form of amusement of the evening. The program opened with a grand march led by our venerable and jovial dean, Dr. Quine, who enjoyed the occasion as thoroughly and actively as the sprigthliest undergraduate present. Following the March, waltzes and two-steps alternated each other in continuous succession until the small hours of the morning.

Refreshments consisting of ice cream, cake, coffee and doughnuts were served to the dancers about eleven o'clock in a room adjoining the dance hall, quantum sates ad. And no complaints were entered with regard to getting a sufficient quantity.

Music was furnished by A. O. Aaker's orchestra and was a most highly satisfactory element in the enjoyment of the evening. A conspicuous feature of the music was the lively two step, "The Junior Prom", composed for the occasion by Mr. Aaker.

The decorations which were under the management of a special committee, of which Mr. Keith was chairman and who devoted much time and thought to the work, are worthy of some notice. The color scheme of the decorations was at once striking and artistic. The X-mas colors, suggestive of the happy holiday season so near at hand, were effectively employed on the large central fixtures:—large red roses held the glittering lights of the chandeliers from the centre of which was suspended a large red bell. Festoons of wild asparagus and smilax joined the lamps and huge ropes of ferns were swung from one chandelier to the other.

The college colors glowed on the wall brackets where the lights were concealed in large yellow chrysanthemums and violets, with tiny red bells hanging from each fixture.

The platform was banked with stately palms vibrating to the strains of lively music produced by Mr. Aakers Orchestra.

I think I voice the sentiments of those present when I tender a vote of thanks to the president and members of the committees instrumental in the carrying out of that most enjoyable occasion.

New years resolutions are customary at this season, and a member of the junior class has kindly submitted the following resolutions in behalf of the class. The Junior class may not be any better at carrying out New Year's resolutions than the average small boy but it won't do any harm to try and may do some good.

1. Remember what you are here for.
 2. Remember that you are a Junior and leave rough house to "Sophs" and "Freshies".
 3. Forget you are a "frat" man.
 4. Forget you are an "Antifrat" man.
 5. Be on time at roll call, especially in 8 o'clock classes.
 6. Sit down in front. The fellow behind you wants to see.
 7. Treat the ladies respectfully. Your mother is a lady.
 8. Join the quiz class. You may not land Cook County Hospital but I will guarantee that you will get more out of your work.
- Yours Truly, A JUNIOR.
-

SOPHOMORE NOTES.

The class has again collected after their brief sojourn and have injected into themselves enough of home antitoxin to combat all the toxic principles that can be set forth in the study line.

All arrived in high spirits but in the back ground was the thought of Pathology examination, which seemed as a toxin itself but all rallied and seemed satisfied with their efforts.

It is stated upon good authority that Skwor has been trifling with matrimonial problems while on his vacation.

Bates, the man who goes early and comes back late arrived in due time to take our second days lectures.

Phifer has already busied himself, and will travel in the summer for a new publishing house, introducing the latest novel (Everybody works but Father).

Lunn wishes all "Seekers of Knowledge" to report to him at once.

The class received a most excellent lecture on Teeth by Professor Dittmar of the Dental Department which was vastly instructive to the Medical Student.

Moran is a new authority on the origin of Lactic acid in the stomach.

Joyce has us all beat in pill making, if you don't believe it just ask him his formula.

One that we missed last month was on Hendricks who said that the air cells of the lungs were nucleated and mentioned the pancreas as one of the organs respiration.

The class deeply sympathizes with Mr. Mikkleson who had the misfortune to loose his mother by death from pneumonia, she died January 2nd.

The first Semester is just drawing to a close and the hope of all is that they will let up a bit in the next. The new schedules are not out yet so we don't know just how things will be arranged; there will probably be quite a change.

WANTED:—To exchange a \$150 microscope, good as new, for an X-ray machine or will take \$70 cash. Address Scope, care of PLEXUS.

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For the next 30 days, to keep our help working full time during the dull season, we will make to your measure of our \$25.00 suits, including an extra fancy silk vest, for \$20 00.

Orders taken now for Spring delivery.

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343 Ogden Ave.

Opp. College of Physicians and Surgeon.

A bit of very sensible literature has just been received from the press of the Searle & Hereth Co., treating of the Physiological action and the therapeutic use of guaiacol and creosote. These drugs, as is well known, are theoretically admirably adapted to the treatment of tubercular conditions especially where the bronchial tract is involved and where increased appetite and forced feeding are a desideratum.

The trouble has always been that before enough of the creosote and guaiacol could be absorbed to have any marked systemic effect, the digestive functions had become badly deranged. The use of the sulphonates of guaiacol and creosote as in GJAIATONIC S. & H. has evidently overcome this difficulty to a very great extent, as clinical testimonies prove. In thus furnishing the profession with an improved method of administering guaiacol and creosote, the Searle & Hereth Company certainly deserves great praise-

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BATAVIA, ILL., JANUARY. 20th, 1906.

AIDING NATURE TO BUILD TEETH.

BY B. J. CIGRAND, M. S., DD. S.

[Dean of Dental Department of the University of Illinois.]

While the federal government is expending millions of dollars through the Department of Agriculture in efforts to arrest the diseases of swine, sheep and cattle, the diseases of children are left to the individual investigations of parents and family doctors. It should be a part of the duties of a nation to see that its citizens grow up to be healthful and vigorous. Its defense depends upon the physical perfection and the neural reserve of its citizens and soldiery. Why should a government expect enduring soldiers from youths who suffer diseases directly traceable to poor teeth and why should it expect strong mothers when no national attention is paid to normal dentition, the very basic element of good health?

Care of the teeth of children resolves itself for the most part into a question of proper diet. The relation of this may not at first appeal to mothers. But if an infant is given poor food its vitality naturally diminishes, and when the great siege of dentition arrives the faint and impoverished

little one has no power of resistance. The intense fevers of dentition may burn up the neural and circulatory forces, and death from convulsions or other manner of neural disturbance may be the result.

That our teeth depend largely upon our physical condition, none will deny. In the living organism forces of destruction and renovation are at work constantly. Changes take place more rapidly in the infant than in the aged; in the active sooner than in the indolent. Fluids and secretions are rapidly replaced. The epithelial lining of the alimentary canal is wasted and repaired several times in one week, but the dentine and enamel of the teeth suffer least of any in the human economy. It is in this latter truth that we are especially interested here, for we find that the destructive processes far exceed the constructive.

We subsist on two classes of foods, in respect of solid and liquid nutrition. Both are essential to healthfulness.

Among the solid foods which are especially rich in the requisite elements for building up the teeth are the cereals, especially wheat and rice. Among the liquids are milk and water. It is all-important that the teeth while still in embryo should receive nutriment calculated to assist in constructing the several earthy components. The initial development of these organs begins early in embryonic life, and it should be understood that the diet of the mother contributes largely to the welfare of the teeth of her offspring. Her foods should be of a most wholesome nature, especially containing a sufficient quantity of phosphates, flourides and carbonates, which enter largely into the composition of bones and teeth.

After its birth the infant should be fed on foods of a like nature. While still nursing the babe, the mother should continue this diet rich in earthy constituents. As the child develops into youth attention should be given by the growing one to consumption of those foods freighted with elements calculated to assist in forming perfect dentine and enamel. This diet should be continued throughout the

period of dentition, which means to about the fourteenth year.

After the teeth have fully erupted, the diet has only a passive influence on the dentine or enamel. When once erupted the teeth are seldom disturbed in a physiological sense. All further efforts for their preservation are of a pathological or mechanical nature. The enamel receives its strength and structure, while still hidden under the gums, from the epithelial layer. When the crown has fully erupted it is completely separated from all vascular tissue, and no longer is dependent on the circulatory system, in consequence of which there can be restoration of broken down enamel.

The hypothesis that in the human mouth there are living organisms that feed upon this structure has been exploded. There are micro-organisms in the mouth, for without the presence of these forms of life the acid that is found there would not be produced. These organisms select the dental organs not as foodstuffs, but as a convenient abode. They do not feed on the enamel, but on the sugar and starch that enter the mouth in the form of food.

Sugar is a favorite article of diet for the streptococcus media and the streptococcus parvus. The more sweets we eat the greater is their supply of food. The more they multiply the greater is their waste product, lactic acid, and hence the more rapid is the dental disorganization. If a diet be followed in which there is a super-abundance of sugar the disease is invited which is known as dental caries. If we permit the food debris to remain in the inter-dental spaces the patches of micro-organisms that are left undisturbed by the toothbrush and water continue to produce waste matter, lactic acid, which by dissolving out the lime salts of the enamel makes ingress into the dental pulp or nerve. Then we are awakened to a sense of responsibility in the matter by the pangs of toothache.

Foods exert an indirect or pathological influence which is important for us to understand. As an instance of this indirect effect the disease known as dyspepsia affords a

good example. Patients afflicted with dyspepsia invariably present soft and imperfect enamel and dentine. The cause is traced to the acidity of the stomach in dyspepsia. The acidity of the stomach is due to the diet, the latter being of a character which entirely exhausts the capacity of the gastric juice of the stomach. Foods usually inducing this trouble are pies, cakes, candies and other favorites of the so-called "sweet mouth." These foods lie in the stomach for a period varying from three to four hours. During this period fermentation sets in and an acid is formed. The gastric juice contains a large quantity of hydrochloric acid and the acid resulting from the food ferment adds to the acidity of the stomach. The child affected suffers from waterbrash, flatulency or ptysis. The acid of the stomach is forced into the mouth and there completely bathes the dental organs, whose outer armor cannot resist the action of the acid. The lime salts being dissolved, dental decay has been initiated.

Foods which adhere to the walls of the teeth are especially likely to induce micro-organic activity. Candy or any substance containing a supply of sugar, and of a sticky character, clings to the outer surface of the tooth structure and acts as a food and a protection to the dental micro-organism. Foods which are considerably colder or warmer than the human body should be discarded, since they not only irritate the dental pulp, but frequently crack the fracture the enamel prisms. Many persons have a dislike for all siliceous or gritty foods, and are addicted to soft and succulent nutriments, which do not afford the teeth proper exercise. The teeth must be employed as instruments of mastication or there will be a systematic tendency toward their elimination. Hence the husks of grain, or foods which require a considerable amount of chewing, exert an agreeable influence on the teeth. Flour which does not contain some of the portions of the husk or its immediate layer fails to supply flourine to the growing dental germ, incurring feeble and imperfect tooth structure.

Water has a twofold influence on the teeth, acting sys-

tematically as a builder and locally as an antiseptic or cleanser. Using it as an irrigator it washes away the food debris from around and about the teeth and materially assists in neutralizing the lactic acid formed by the presence of microscopic life. By diluting this most destructive acid it limits the caries to a most pronounced degree. Water has often an abundant supply of pathogenic bacteria, and when it is not distilled or sterilized brings these dangerous forms of life in contact with the dental organs and inaugurates a more rapid decay of all parts within their vicinity. Water is the usual cause of typhus and other severe affections. Diphtheria is among the ailments that indirectly cause a wasting of the teeth, since during its ragings the microscopic life is so plentiful as to keep up a very strong acidity of the entire oral cavity.—Reprint from *Chicago Record Herald*.

PROMPTNESS IN THE USE OF TIME.

Everybody should be ready to start at the word, *Go*, at the drop of the hat or crack of the pistol. Promptness gives strength and power to build up a noble manhood. Procrastination stings the body like a viper, circulates through the system, eats out the heart, and causes the man to go down in the busy stream of life and finally to sink out of sight. We must be ready to strike when the iron is hot or it will burn, and we shall fail to accomplish that which we started out to do. "Time waits for no Man", therefore the man who loses a moment of time he loses it forever. We can neither borrow, beg nor buy it back.

When we are to go on a journey, we should be comfortably seated in the car when the conductor calls, all aboard. The switchman who was one minute late in closing the switch, caused a wreck, that time, love, nor money can ever repair. Promptness is the safeguard to all things pertaining to active life. Minuted count and we should learn their value.

The student who enters upon a College Course, can take but one road to success, and that is through the door-

way of promptness. The young man must pay his bills promptly. If he spends as he goes and as fast as he earns, he will get cold comforts of life when the winter frosts begin to creep in upon him and snowdrifts of time settle down upon his head. He will look back but it will be too late. The "Dial of Time" never turns backward. If you have begun wrong or made a mistake, stop right where you are, and consider, think more, think better, and *do better*. Holmes said, "It matters not so much where a young man starts, as the direction in where he is going." He must have good aims in life to bring good fruit. Then he must save the best, it is only the best that keeps. Fruit that is specked will soon lose flavor and rot away.

We may look upon the future with hope, and expectation, but the time to do is now. "Take care of the present and the future will take care of itself", is a safe motto to follow.

Habits formed are firm and stubborn,
They stick like leeches after blood;
They make a canker sore to grieve us
That leaves a scar where the canker stood.

Never let a viper sting you,
Never unclean pleasures seek,
Choose the choicest kind of language,
To express the thoughts you speak.

Store away your surplus earnings,
Save them for your future need,
By and by Jack Frost will greet you
On his white and biting steed.

Life is short and time is fleeting,
Springtime comes and flits away,
Summer follows in her footsteps,
Blossoms come and soon decay.

Autumn follows summer blossoms,
Here our Midday hours appear,
If we save the fruits of labor
Our winter days will come with cheer.

Cap and Gown avails us nothing,
Gilt Diplomas you may show,
But the man of brain, and truth, and virtue,
Will make a record clean as snow.

C. K. HOWARD.

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THE A. PH. A. BULLETIN.

The first number of the monthly Bulletin of the American Pharmaceutical Association has made its appearance and is a credit to its editor, Professor C. S. N. Hallberg.

It contains the president's address on the occasion of the last annual meeting, the reports of the officers and of the various committees and the minutes of the first session of the Council, as well as the officers and committees for the present year.

The aims and objects of the Bulletin are set forth in the editor's salutatory, which we quote.

"After a half-century of history as an Association embodying the aims and teachings of its illustrious founders, representing the very life and ambition of the men whose names are now but cherished memories, whose precepts and examples have been an inspiration to the present generation and whose labors of our science and art have shed glory on our profession and craft, the American Pharmaceutical Association, to quicken its activities and to bring its membership more fully in accord with the progress of events, has decided to publish a monthly Bulletin.

The work involved is critical and may fall short of the ideal, but whatever may be accomplished through unswerv-

ing fidelity to the profession of Pharmacy and its votaries, and indomitable ambition to serve the Association and to promote its usefulness until its membership embraces every true pharmacist in the land, shall be the consistent and strenuous endeavor of THE EDITOR."

Every pharmacist and especially every alumnus of the School should join the American Pharmaceutical Association. The bound volume of proceedings issued annually and comprising a complete year book of pharmaceutical progress, together with the monthly bulletin, amply compensate for the small expense of dues. The opportunity of attending the annual meetings and the pleasure and helpfulness of association with men who are doing good work for pharmacy are of inestimable value.

ALUMNI NOTES.

C. L. Higgins, '04, who has been chief clerk at Ebert's Pharmacy since his graduation, has recently opened a drug store at Neponsett, Ill.

J. H. Greves, '95, has sold his drug store at Portland, Ore. and has removed to Duluth, Minn, where he has purchased an interest in the Duluth Medical Institute.

George F. Starr, '83, has bought the pharmacy of A. L. Coppock '88 at 1800 Barry Ave. Chicago.

W. L. Shockey, '01, is the newly elected secretary of the Colorado Board of Pharmacy.

H. A. Salchert, '01, has sold his drug store at Wells St. & North Ave.

F. G. D. Walker, '02, has returned to Chicago from Omaha and is prescriptionist at Pyatt's Pharmacy, 63rd and Kimbark Ave.

James E. Thomson, '95, died at Delhi, Louisiana, last month. He was manager of the Thomson Drug Co. and a graduate of the medical department of Tulane University. Mr. Thomson was thirty-two years of age. He leaves a widow and a son.

SENIOR NOTES.

At the opening address of the new year, Professor Goodman commenced by greeting us with the usual "Quaker Oat Smile" and a Happy New Year. He expressed his desire to see us make this a banner year by all graduating. He said only once in his teaching career did this occur and he hoped it would be our aim to do likewise.

We were likewise greeted by the other professors with the hope that we had come back full of vigor and ready for the final struggle.

Anyone wishing a sample of Meixner's mustache grower will be supplied by calling at "Ebert's Pharmacy." Beckett secured a sample and after four weeks treatment has succeeded in growing his whiskers enough so that they can be plainly seen without the use of a field glass.

He says he is very much encouraged with the Hair tonic and intends giving Meixner a good testimonial.

The committee on pins is to be congratulated on securing the pins so quickly. These class pins are beauties and we'll be proud of them.

Some of the boys have been the victims of thieves, Seifried having lost from his locker an overcoat which he values at \$30, and Holland having lost all his books on the street car while on his way home. It is hoped that the guilty parties will be found and dealt with according to law.

We regret very much to learn that Ralph Eberly will not resume his studies this year, but will wait and finish his course in '07. Owing to the ill health of his employer, Ralph is obliged to take charge of the store. We wish him all the success, and hope that nothing will interfere to keep him from joining the ranks of the Ph. Gs. in '07.

Walter Price also left us during the holidays but expects to return next year.

What is urotropine?

Ans. 6×4 .

The last special lecture of the '05 was delivered by Mr. P. E. Holp of the N. A. R. D. who spoke of the good that the association was doing and also the better times that are in store for the drug clerk as well as the druggist. The lecture was very interesting and was well attended.

JUNIOR NOTES

To the list of officers noted in last months Junior Notes, we add

Sergeant at Arms—C. F. Kingery.

Class Editors—A. S. Boyer and T. E. P. Furman.

The cigars, tobacco, bananas and those swell 12th St. sandwiches, which were left from the smoker were given to Rudolph, together with a small amount of cash as a Christmas remembrance from the association.

Most of the Junior students were home for the holidays.

A number of students expect to go up against the State Board next month. Bromo Seltzer, only 10 cents, Boys.

“Everybody works but Father”

Our future is a happy one.

The physiology class closed with a very satisfactory standing.

The laugh that won't come off.

—Polk—

Professor Goodman remembered a number of the students with Century plants of his own propagation.

We hope the 54 students who failed to join the Association will kindly give Beaman the 2 bits and get in the game.

A very interesting lecture on “The Patents” was delivered by Professor Hallberg before the regular lecture, January 6th.

Mr. Wirtz has been ill at the Mercy Hospital several weeks, suffering from an attack of pleurisy. He is now convalescent.

We wonder where “Joe Situs” and others will make goo-goo eyes, now that the Royal Tailors are gone from across the street.

“Please go away and let us sleep”

—“The tired boys”—

From the Fourth Floor—“What is Ferrated Tincture of Gaul?”

“Catch the drop”

“What four things are not aseptic?”

“Now Carl, powder number 40 squill root in the good old-fashioned way.”

Spanish stew, buns, potatoes, water, coffee, pickles and tooth picks—10 cents.

If Professors Hallberg, Puckner and Snow would give us a few more "precautions" we might expect to get back part of that laboratory deposit next April.

Kingery's songs and stories are "pipes."

'Twas just before vacation
In the winter of nineteen five,
When the students of the pharmacy
Had thought they couldn't survive
That final examination,
And the rest that were to come;
But we succeeded in thinking
Our thoughts were on the bum.

So we arranged a smoker
With the students all in line,
Fruit and cigars in plenty
And everything that's fine;
But things went topsy-turvy
For boys are rude you know
And things that are exciting
Do certainly have to go.

'Twas as cold as Greenland down there
And, yet 'twas like a dream
For we had faint recollections
Of Hallberg's patent steam.
The smoke in the rooms was frightful
But it came from Havana ropes,
And I'm positive it was better
Than any of Snow's punk dopes.

We took the examination,
And to our greatest delight
We passed in every study;
Then took our homeward flight
To spend that short vacation
With our parents, ever kind,
And (Goodman's gentle reminder)
The girl we left behind.

We returned after our vacation,
With the greatest of vim in store,
And if we get fired for whistling
Good-bye for evermore,
Whistling with some of the boys
Seems to be sort of a fad,
But if they do not stop it
Some one will go to the bad.

THE PLEXUS

COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT OF THE
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CHICAGO.

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NO 2.

PHARMACOPOEIAL SUBSTANCES, USES AND DOSES.

BY BERNARD FANTUS, M. D.

Professor of Materia and Therapeutics Medical Department University of Illinois.

Acacia: Uses—Demulcent, excipient. Dose, any quantity.

Prep.—1. *Mucilago acaciae*. 34 per cent, Dose, 16 Cc.

2. *Syrupus acaciae*. 10 per cent, Dose, any quantity.

Acetanilidum: Uses—Antiseptic, analgesic, antipyretic, sudorific. Dose, 0,25 Gm.

Prep.—*Pulvis acetanilidi compositus* 70 per cent, Dose, 0,50 Gm.

Acetonum: Uses—Solvent for resins, oleoressins, fats, etc.

Acetphenetidinum: Uses—Antipyretic, analgesic. Dose, 0,50 Gm.

Acidum Aceticum: Uses—Irritant, styptic, refrigerant.

Prep.—*Acidum aceticum dilutum*. 6 per cent, Dose, 2 Cc.

Acidum Aceticum Glaciale: Uses—Caustic.

Acidum Benzoicum: Uses—Antiseptic, diuretic, expectorant. Dose, 0,50 Gm.

Acidum Boricum: Uses—Mild antiseptic. Dose, 0,50 Gm.

Prep.—1. Glyceritum boroglycerini. 31 per cent.

2. Unguentum acidi borici. 10 per cent.

3. Liquor antisepticus. 2 per cent, Dose, 4 Cc.

Acidum Camphoricum: Uses—Antihydrotic. Dose. 1 Gm.

Acidum Citricum: Uses—Flavoring agent, refrigerant. Dose, 0,50 Gm.

Prep.—Syrupus acidi citrici. 1 per cent, Dose, any quantity.

Acidum Gallicum: Uses—Astringent (?). Dose, 1 Gm.

Acidum Hydriodicum Dilutum: Uses—Alterative. Dose, 0,5 Cc.

Prep.—Syrupus acidi hydriodici. 1 per cent, Dose. 4 Cc.

Acidum Hydrobromicum Dilutum: Uses—Sedative nerve. Dose, 4 Cc.

Acidum Hydrochloricum: Uses—Caustic; in diluted form, stomachic.

Prep.—Acidum hydrochloricum dilutum. 10 per cent, Dose, 1 Cc.

Acidum Hydrocyanicum Dilutum: Uses—Antemetetic, analgesic, antipruritic. Dose, 0,1 Cc.

Acidum Hypophosphorosum: Uses—Tonic.

Prep.—Acidum hypophosphorosum dilutum. 10 per cent. Dose, 0,5 Cc.

1. Syrupus hypophosphitum 0,2 per cent, Dose, 8 Cc.

2. Syrupus hypophosphitum compositus. 1,5 per cent, Dose, 8 Cc.

Acidum Lacticum: Uses—Solvent for false membranes. Dose, 2 Cc.

Acidum Nitricum: Uses—Caustic; in dilute form, astringent.

Prep.—1. Acidum nitricum dilutum. 10 per cent, Dose, 2 Cc.

Acidum Nitrohydrochloricum: Uses—Stimulant to liver

and other glands of alimentary tract in indigestion, biliousness, etc. Dose, 0,2 Cc.

Prep.—*Acidum nitrohydrochloricum dilutum*. (Nitric acid, 4; hydrochloric acid, 18, 2; water, to make 100). Dose, 1,0 Cc.

Acidum Oleicum: Uses—In preparation of oleates.

Acidum Phosphoricum: Uses—Refrigerant.

Prep.—*Acidum phosphoricum dilutum*. 10 per cent, Dose, 2 Cc.

Acidum Salicylicum. Uses—Antiseptic, irritant, cholagogue, antirheumatic. Dose, 0,5 Gm.

Acidum Stearicum: Uses—In the manufacture of glycerin suppositories.

Acidum Sulphuricum: Uses—Corrosive; in diluted form, astringent.

Prep.—1. *Acidum sulphuricum dilutum*. 10 per cent, Dose, 2 Cc. 2. *Acidum sulphuricum aromaticum*. Aromatic sulphuric acid, (Syn. Elixir of vitriol) contains 20 per cent, by weight of absolute acid dissolved in alcohol, with oil of cinnamon and tincture of ginger as aromatics. Incompatible with water. Dose, 1 Cc.

Acidum Sulphurosum: Uses—Deodorant, disinfectant, parasiticide. Dose, 2 Cc.

Acidum Tannicum: Uses—Astringent, hemostatic, antidote. Dose, 0,50 Gm.

Prep.—1. *Glyceritum acidi tannici*. 20 per cent.

2. *Collodium stypticum*. 20 per cent.

3. *Unguentum acidi tannici*. 20 per cent.

4. *Trochisci acidi tannici*. (0,06 Gm. each).

Acidum Tartaricum: Uses—Refrigerant. Dose. 0,50 Gm.

Acidum Trichloraceticum: Uses—Antiseptic, escharotic.

Aconitina: Uses—Local analgesic, circulatory depressant. Dose, 0,00015 Gm.

Aconitum: Uses—Local analgesic, circulatory depressant. Dose, 0,065 Gm.

Prep.—1. *Fluidextractum aconiti*. Dose, 0,05 Cc.

The Plexus.

2. *Tinctura aconiti*. 10 per cent, Dose, 0,60 Cc.
Adeps: Uses—Emollient.

Prep.—1. *Adeps benzoinatus*.

2. *Unguentum*. 80 per cent, and other ointments.

3. *Ceratum*. 50 per cent, and other cerates.
Adeps Lanae: Uses—Emollient.

Adeps Lanae Hydrosus: Uses—Emollient.

Aether: Uses—General and local anesthetic, carminative, reflex stimulant. Dose, 1 Cc.

Prep.—1. *Spiritus aetheris*. 32,5 per cent, Dose, 4 Cc

2. *Spiritus aetheris compositus*. 32,5 per cent; Dose, 4 Cc.

Aether Aceticus: Uses—Like ether, but more irritating and less effective. Dose, 1 Cc.

Aethylis Carbamas: Uses—Hypnotic. Dose, 1 Gm.

Aethylis chloridum: Uses—Local and general anesthetic.

Alcohol: Uses—Antiseptic, refrigerant, rubefacient, astringent, stomachic, carminative, reflex stimulant, narcotic, diaphoretic, diuretic.

Prep.—*Alcohol dilutum*. Diluted alcohol. Syn.—Proof spirit. 50 per cent.

Aloe: Uses—Cathartic, emmenagogue. Dose, 0,25 Gm.

Prep.—1. *Aloe purificata*. Dose, 0,25 Gm.

2. *Extractum aloes*. Dose, 0,125 Gm.

3. *Tinctura aloes*. 10 per cent, Dose, 2 Cc.

4. *Pilulae aloes*. (0,13 Gm. in each). Dose, 2 pills.

5. *Pilulae aloes et ferri*. (0,07 Gm. in each). Dose, 2 pills.

6. *Pilulae aloes et mastiches*. (0,13 Gm. in each). Dose, 2 pills.

7. *Pilulae aloes et myrrhae*. (0,13 Gm. in each). Dose, 2 pills.

8. *Tinctura aloes et myrrhae*. 10 per cent, Dose, 2 Cc.

Aloinum: Uses—Cathartic, emmenagogue. Dose, 0.065

Prep.—*Pilulae laxativae compositae*. (0.013 Gm. in each). Dose, 2 pills.

Althaea: Uses—Demulcent. Dose, any quantity.

Alumen: Uses—Astringent. Dose, 0.50 Gm.

Prep.—*Alumen exsiccatum*. Dried alum. 100 parts reduced to 55 parts by driving off water of crystallization.

Alumini Hydroxidum: Uses—Feebly astringent dusting powder.

Alumini Sulphas: Uses—Antiseptic, astringent.

Ammonia: **Prep.**—1. *Aqua ammoniae*. 10 per cent, Dose, 1 Cc.

2. *Aqua ammoniae fortior*. 28 per cent.

3. *Spiritus ammoniae*. 10 per cent, Dose, 1 Cc.

4. *Spiritus ammoniae aromaticus* (ammonia water), 9 per cent, Dose, 2 Cc.

5. *Linimentum ammoniae* ammonia water, 35 per cent.

Ammonii Benzoas: Uses—Antiseptic, expectorant, diuretic. Dose, 1 gm.

Ammonii Bromidum: Uses—Sedative nervine. Dose, 1 gm.

Ammonii Carbonas; Uses—Reflex stimulant, carminative, expectorant. Dose, 0.25 gm.

Prep.—*Liquor ammonii acetatis*. Dose, 16 cc.

Ammonii Chloridum: Uses—Expectorant, hepatic stimulant. Dose, 0.50 gm.

Prep.—*Trochisci ammonii chloridi*. 0.10 gm. each.

Ammonii Iodidum: Uses—Alterative. Dose, 0.25 gm.

Ammonii Salicylas: Uses—Antiseptic, cholagogue, antirheumatic. Dose, 0.25 gm.

Ammonii Valeras: Uses—Antispasmodic, antihysterical. Dose, 0.50 gm.

Amygdala Amara: Uses—Flavoring agent.

Prep.—1. *Aqua amygdalæ amaræ*. 0.1 per cent. Dose, 4 cc.

2. *Spiritus amygdalæ amaræ*. 1 per cent. Dose, 0.5 cc.

3. *Syrupus amygdalæ*. Spirit 1 per cent. Dose, 4 cc.

Amygdala Dulcis Uses—Demulcent, nutritive.

Prep.—*Emulsum amygdalæ*. 6 per cent. Dose, 120 Cc.

Amylis Nitris; Uses—Vaso-dilator and motor depressant. Dose, 0.2 cc.

Amylum: Uses—Dusting powder, demulcent, nutritive.

Prep.—*Glyceritum amyli*. 10 per cent.

Anisum: Uses—Carminative, flavoring. Dose, 0.50 Gm.

Prep.—1. *Aqua anisi*. 0.2 per cent, Dose, 16 Cc.

2. *Spiritus anisi*. 10 per cent, Dose, 4 Cc.

Anthemis: Uses—Carminative, diaphoretic. Dose, 2 Gm.

Antimonii et Potassii Tartras: Uses—Expectorant, dose, 0.005 Gm. Emetic, dose, 0.030 Gm.

Prep.—1. *Vinum antimonii*. 0.4 per cent, Dose, 1 Cc.

2. *Syrupus scillae compositus*. 0.2 per cent, Dose, 2 Cc.

Antipyrina: Uses—Haemostatic, antipyretic, analgesic. Dose, 0.25 Gm.

Apocynum: Uses—Heart stimulant, diuretic. Dose, 1 Gm.

Prep.—*Fluidextractum apocyni*. Dose, 1 Cc.

Apomorphinae Hydrochloridum: Uses—Expectorant, dose, 0.002 Gm; emetic, dose, 0.005 Gm.

Aqua Hydrogenii Dioxidii: Uses—Antiseptic; cleansing agent. Dose, 4 Cc.

Argenti Nitras: Uses—Antiseptic, astringent, caustic. Dose, 0.01 Gm.

Prep.—1. *Argenti nitras fusus*. In form of pencils.

2. *Argenti nitras mitigatus*. Mitigated silver nitrate. Contains silver nitrate 33.3 per cent with potassium nitrate.

Argenti Oxidum: Uses—A very feeble astringent. Dose, 0.065 Gm.

Arnica: Uses—Externally in lotions. Dose, 1 Gm.

Prep.—*Tinctura arnicae*. 20 per cent, Dose, 1 Cc.

Arseni iodidum: Uses—Alterative. Dose, 0.005 Gm.

PHARMACOPOEIAL SUBSTANCES, USES AND DOSES .

Prep.—Liquor arseni et hydrargyri iodidi. 1 per cent, Dose, 0,1 Cc.

Arseni Trioxidum: Uses—Caustic, tonic, alterative, hematinic. Dose, 0,002 Gm.

Prep.—1. Liquor potassii arsenitis. 1 per cent, Dose, 0,2 Cc. This solution is alkaline in reaction, and may precipitate solutions of alkaloidal and metallic salts.

2. Liquor acidi arsenosi. 1 per cent, Dose, 0,2 Cc. Has acid reaction.

Asafoetida: Uses—Carminative, antispasmodic, antihysteria. Dose, 0,25 Gm.

Prep.—1. Emulsum asafoetidæ. 4 per cent, Dose, 16 Cc.

2. Tinctura asafoetidæ. 20 per cent, Dose, 1 Cc.

3. Pilulæ asafoetidæ. (0,20 Gm. in each).

Dose, 2 pills.

Aspidium: Uses—Anthelmintic against tape-worm. Dose, 4 Gm.

Prep.—Oleoresina aspidii. Dose, 2 Gm.

Atropina. Uses Local anodyne, mydriatic, antispasmodic, antisecretory, circulatory and respiratory stimulant. Dose, 0,0004 Gm.

Prep.—Oleatum atropinæ. 2 per cent.

Aurantii Amari Cortex: Uses—Flavoring agent, stomachic. Dose, 1 Gm.

Prep.—1. Fluidextractum aurantii amari. Dose, 1 Cc.

2. Tinctura aurantii amari. 20 per cent, Dose, 4 Cc.

Aurantii Dulcis Cortex: Uses—Flavoring agent. Dose, 1 Gm.

Prep.—1. Tinctura aurantii dulcis. 50 per cent, Dose, 4 Cc.

2. Syrupus aurantii Tincture 5 per cent, Dose, any quantity.

Auri et Sodii Chloridum: Uses—Alterative. Dose, 0,005 Gm.

Balsamum Peruvianum: Uses—Antiseptic, parasiticide, rubefacient, expectorant. Dose, 1 Gm.

Balsamum Tolutanum: Uses—Flavoring agent, expectorant. Dose, 1 Gm.

Prep.—1. Tinctura tolutanae. 20 per cent, Dose, 2 Cc.

2. Syrupus tolutanus. Tincture, 5 per cent, Dose, 16 Cc.

Belladonnae Folia: Uses—Local anodyne, mydriatic, antispasmodic, antisecretory, circulatory and respiratory stimulant. Dose, 0,065 Gm.

Prep.—1. Extractum belladonnae foliorum. Dose, 0,01 Gm.

2. Tinctura belladonnae foliorum. 10 per cent, Dose, 0,5 Cc.

3. Unguentum belladonnae. Extract, 10 per cent.

4. Emplastrum belladonnae. Extract, 30 per cent.

Belladonnae Radix. Prep.—1. Fluidextractum belladonnae radicis. Dose, 0,05 Cc. 2. Linimentum belladonnae. Fluid extract 95 per cent.

Benzaldehydum. Uses—Flavoring agent, superior to natural oil of bitter almond because of uniformity of composition and freedom from hydrocyanic acid. Dose, 0.03 cc.

Benzinum: Uses—Solvent in pharmacy.

Prep.—Benzinum purificatum.

Benzoinum; Uses—Antiseptic, irritant, expectorant, diuretic. Dose, 1 gm.

Prep.—1. Tinctura benzoini. 20 per cent. Dose, 1 cc.

2. Tinctura benzoini composita. 10 per cent. Dose. 2 cc.

3. Adeps benzoinatus. 2 per cent.

Benzosulphindum: Uses—Sweetening agent, antiseptic. Dose, 20 gm.

Berberis: Uses—Bitter stomachic, cholagogue laxative. Dose, 2 gm.

Prep.—Fluidextractum berberidis. Dose, 2 cc.

Betanaphthol: Uses—Antiseptic. Dose, 0.25 gm.

Bismuthi Citras: Uses—Mild antiseptic and astringent. Dose, 0.125 gm.

Prep.—Bismuthi et ammonii citras; pearly scales, very soluble in water; sparingly soluble in alcohol. Dose, 0,125 Gm.

Bismuthi Subcarbonas: Uses—Mild antiseptic and astringent. Dose, 0,50 Gm.

Bismuthi Subgallas: Uses—Mild antiseptic and astringent. Dose, 0,25 Gm.

Bismuthi Subnitrates: Uses—Mild antiseptic and astringent. Dose, 0,50 Gm.

Bismuthi Subsali-cylas: Uses—Mild antiseptic and astringent. Dose, 0,25 Gm.

Bromoformum: Uses—Sedative (in whooping-cough) Dose, 0,2 Cc.

Bromum: Uses—Caustic.

Buchu: Uses—Diuretic, diaphoretic, expectorant. Dose, 2 Gm.

Prep.—Fluidextractum buchu. Dose, 2 Cc.

Caffeina: Uses—Stimulant to heart and to central nervous system; diuretic. Dose, 0,065 Gm.

Caffeina Citrata: Prep.—Caffeina citrata effervescens. 4 per cent, Dose, 4 Gm.

Calamus: Uses—Aromatic bitter. Dose, 1 Gm.

Prep.—Fluidextractum calami. Dose, 1,0 Cc.

Calcii Bromidum: Uses—Sedative nervine. Dose, 1 Gm.

Calcii Carbonas Praecipitatus: Uses—Absorbent, antacid, feebly astringent. Dose, 1 Gm.

Calcii Chloridum: Uses—Hemostatic. Dose, 0,50 Gm.

Calcii Hypophosphis: Uses—Tonic. Dose, 0,50 Gm.

Prep.—1. Syrupus hypophosphitum. 4,5 per cent. Dose, 8 Cc.

2. Syrupus hypophosphitum compositus. 3.5 per cent, Dose, 8 Cc.

Calcii Phosphas Praecipitatus: Uses—As restorative in conditions of calcium deficiency. Dose. 1 Gm.

Prep.—Syrupus calcii lactophosphatis. Dose. 8 Cc.

Calcii Sulphas Exsiccatus: Uses—For making immovable bandages.

Calendula: Uses—Vulnerary, tonic. Dose, 1 Gm.

Prep.—*Tinctura calendulae*. 20 per cent.

Calumba: Uses—Simple bitter stomachic. Dose, 2 Gm.

Prep.—1. *Fluidextractum calumbae*. Dose, 2 Cc.

2. *Tinctura calumbae*. 20 per cent, Dose, 4 Cc.

Calx: Uses—Disinfectant, caustic, antacid, mild astringent.

Prep.—1. *Liquor calcis*. 0,14 per cent, Dose, 16 Cc.

2. *Syrupus calcis*. 6,5 per cent, Dose, 2 Cc.

3. *Linimentum calcis*. Lime water. 50 per cent.

Calx Chlorinata: Uses—Deodorant, disinfectant. Dose, 0,25 Gm.

Prep.—*Liquor sodae chlorinatae*. Dose. 1 Cc.

Calx Sulphurata: Uses—Skin irritant, depilatory. alterative. Dose, 0,065 Gm.

Cambogia: Uses—Violent hydragogue cathartic. Dose, 0,125 Gm.

Camphora: Uses—Antiseptic, counterirritant, anodyne, stomachic, carminative, circulatory and nervine stimulant. Dose, 0,125 Gm.

Prep.—1. *Aqua camphorae*. 0,8 per cent, Dose, 8 Cc.

2. *Spiritus camphorae*. 10 per cent, Dose, 1 Cc.

3. *Linimentum camphorae*. 20 per cent.

4. *Ceratum camphorae*. Camphor liniment. 10 per cent.

Camphora Monobromata: Uses—Sedative nervine. Dose, 0,125 Gm.

Cannabis Indica: Uses—Analgesic. narcotic. Dose, 0,065 Gm.

Prep.—1. *Extractum cannabis indicae*. Dose 0,01 Gm.

2. *Fluidextractum cannabis indicae*. Dose, 0,05 Cc.

3. *Tinctura cannabis indicae*. 10 per cent, Dose, 1,00 Cc.

Cantharis: Uses—Vesicant, diuretic, aphrodisiac. Dose, 0,03 Gm.

Prep.—1. *Tinctura cantharidis*. 10 per cent, Dose, 0,3 Cc.

To be Continued.

GROSS ABNORMALITIES OF THE APPENDIX
VERMIFORMIS NOTED IN 3,550 AUTOPSIES.

BY A. P. HEINECK, M. D., Chicago, Ill.

Anatomical, pathological and clinical data concerning the appendix vermiformis are always of a practical interest to the medical practitioner. The frequency of pathological conditions in this organ, be they of a degenerative, of an inflammatory or of a neoplastic nature, is responsible for the many studies which have appeared on the appendix vermiformis.

There are normal conditions, locations, sizes and general relations of the appendix. Any deviation from the normal we consider abnormal. How can the nature and the frequency of these abnormalities be determined; be they abnormalities in the location, in size, in general relations, in an anatomical integrity? By the comparison and the discussion of observations made in the dissecting room, on the operating table and in the post-mortem room. This paper is based exclusively on observations made in the latter. The post-mortem records of 3,550 consecutive and unselected autopsies held in the Cook County Hospital between Jan. 1, 1893, and Dec. 30, 1905, inclusive, were examined. These post-mortems were held on patients who died in the institute. An autopsy in this institution can only be held in the absence of protest from friends or relatives. No special space in the records was allowed to the appendix until the year 1806. Before that time the nature, the frequency and the importance of inflammations of this organ were not as fully understood and as fully appreciated as they are now.

The frequency of adhesion of the appendix vermiformis to neighboring structures and organs impressed us.

The appendix vermiformis was found adherent to neighboring structures or viscera 486 times. It was not possible to determine accurately in what proportion of cases the condition of "adherent appendix" was due to a previous inflammatory process of the appendix; or to a previous inflammatory process extending to the appendix; from adja-

cent structures, in which it had originated. The adhesions are of interest to the clinician, to the pathologist and to the surgeon. They are frequently the cause of obscure (obscure as to correct interpretation) abdominal pains (adhesions to colon, to small intestines, to abdominal wall;) of digestive disturbances (adhesions to stomach, liver, gall-bladder.) They may be the cause of vesical, of rectal tenesmus (adhesions to the urinary bladder, to the sigmoid flexure of colon and to the rectum).

Adhesions can lead to kinking, to twisting, to obstruction of the appendix, to interference with its circulation, to impairment of its peristaltic action; can be the means of extension of an inflammatory process from the appendix to the structure or organ, to which the appendix is adherent; can make the appendix serve the office of a band over which a loop of intestines may become kinked, or beneath which a coil of gut may become looped, in either case intestinal obstruction or strangulation results. The appendix may lie concealed in a mass of adhesions.

In 145 cases of chronic adhesive appendicitis, examined and analyzed at the Boston City Hospital, 118 showed no evidence of any abdominal condition to which adhesion could be referred, other than a prior inflammation of the appendix. Hence they can be considered cases of primary chronic adhesive appendicitis. In 27 cases other sources for the adhesions could be ascertained (secondary chronic adhesive appendicitis), as salpingitis, hydrosalpinx, myoma of uterus; in 3 cases, carcinoma of uterus, with other pelvic structures; in 3 cases, disease of the gall-bladder; in 2, tubercular peritonitis, etc.

These adhesions always prolong the operative intervention and may lead the surgeon to completely modify his technique in appendectomy. For instance, in those cases in which the appendix is so closely adherent to the wall of the cecum that it appears almost a part of it, and cannot with safety be separated from it. In such cases the appendix may be split lengthwise, and its mucous membrane removed and ligated at its junction with the cecum, and the wound in the appendix sutured.

The analysis of 486 cases in which the appendix was adherent shows the following:

Appendix adherent to cecum in 357 cases.

Appendix adherent to psoas muscle 44 cases.

Appendix adherent to hernial sac 5 cases.

Appendix adherent to omentum 16 cases.

Appendix adherent to small intestines 18 cases.

Appendix adherent to ascending colon 10 cases.

Appendix adherent to parietal wall 18 cases.

Appendix adherent to brim of pelvis 8 cases.

Appendix adherent to rectum 2 cases.

Appendix adherent to sigmoid flexure 1 case.

Appendix adherent to stomach 1 case.

Appendix adherent to liver 2 cases.

Appendix adherent to urinary bladder 1 case.

In the cases in which it was adherent to the psoas muscle, in some the course of the appendix was parallel to the long axis of the psoas muscle; in some transverse to it; in others oblique.

In cases of adherent appendix not included in the above the appendix was adherent to more than one structure.

Cunningham says: "The following locations of the appendix vermiformis have been considered normal by one or more observers: (1) Over the brim, into the pelvis; (2) upwards behind the cecum; (3) upwards and inwards towards the spleen. In these 3,550 cases it is reported that the appendix was located partially or wholly, in the true pelvis, 155 times. This fact shows the utility of rectal and of vaginal examinations in suspected cases of appendicitis; it explains the frequency of pelvic abscesses in suppurative inflammations of the appendix vermiformis, and the rupturing of some of these abscesses in the uterus, into the rectum, into the urinary bladder, etc".

The appendix vermiformis was found in a hernial sac five times, cases 6182, 6924, 5245, 5344, and in case G. B., June 26, 1896. In each of these cases we were dealing with a right inguinal hernia. In one, the appendix was the only viscus present. In two others, a part of the cecum was

present in the hernial sac, with the appendix, and in the fourth, small intestines and the appendix vermiformis formed the contents of the hernial sac. All these herniae were irreducible, owing to the presence of adhesions. In one of these cases (5245), many concretions were found in the appendix.

The appendix was retroperitoneal in 12 cases. A retroperitoneal appendix is liable, if it becomes inflamed, to cause a retrocecal abscess. Retroperitoneal vermiform appendices play an important part in the causation of subphrenic abscesses.

Kelly and Hurdon say: "The question whether the appendix is an intraperitoneal or extraperitoneal organ is chiefly decided by the position it assumes in relation to the cecum or colon, whether it is downward or upward; or in more correct expression, early fusion between the colon and the posterior abdominal wall is apt to produce an ascending or retroperitoneal appendix, while late fusion brings about a pendant intraperitoneal appendix."

In case 5259, patient, six months old. The appendix was found in the ascending colon. The lower end of the ileum had passed upward through the ileocecal valve with the cecum into the colon. The appendix at its attached end had been inverted with the bowel. The half below the constriction was gangrenous.

Case 6432. In this case the appendix was herniated through its own mesentery. It was not the seat of adhesions.

In case 5750, a case of gangrenous appendicitis, the cecal end of the appendix opened into a large abscess cavity in the liver. The opening in the appendix corresponded to the site of the liver abscess.

In 20 cases the appendix was partially or completely obliterated. It is said that total obliteration of the canal insures perfect immunity from further attacks, but that if any portion remains pervious there is an increased disposition to other attacks. In nine of these cases the obliteration was due to an inflammation; in the others it was not determined whether the obliteration was inflammatory or involutionary

in nature. In one case, constriction was proximal to a concretion; in another, the appendix contained mucoid material distal to the constriction; in one, the end distal to the constriction contained pus.

The appendix was found kinked in 20 cases. Some of these bends and kinks were due to inflammatory adhesions; some were due to a shortened meso-appendix. In 10 of these cases the kinking was inflammatory in origin; in the others, reports are too meagre, to state the causes. Constrictions of the appendix were noticed in nine cases. They were all due to previous inflammation of the organ.

In these reports no case of supernumerary appendix is recorded. No case of absence of the appendix not attributable to appendectomy or sloughing was seen. The absence due to operation, of the appendix was noted 21 times.

The size of the appendix is more variable than its position. Kelly and Hurdon agree with Ribbert, Berry and others in placing the average length of the appendix at about 8.3 cm., or between three and three and one half inches. Schlang, in von Bergmann's Practice of Surgery, gives the average length as 9.2 cm., equal to $3\frac{1}{2}$ inches.

In case 6656, the length of the appendix was $\frac{1}{2}$ cm.

In case 6791, the length of the appendix was 3 cm.

In case 7073, the length of the appendix was 3 cm.

In case 6107, the length of the appendix was 21 cm.

In case 5616 the appendix was normal, but was 6 inches in length.

In one case (patient Isaac Williams, posted April 26, 1895,) the appendix is recorded as having been 10 inches long. Long appendices are frequently bent upon themselves or drawn up by the shortness of their mesentery into various bizarre forms, figure-of-eight or spiral.

Foreign bodies were found in the appendix vermiformis as follows:

Grape seed, one case.

Fish bone ($1\frac{1}{2}$ in. in length), covered with concretions, one case.

Enteroliths, 25 cases.

By enteroliths we understand fecal material which has undergone desiccation. The ordinary or normal appendix may contain fecal material similar to that found in the adjacent large intestine. Bryant found fecal matter in 70% of his adult specimens. In some of the cases reported above the enteroliths were single, in others multiple. In case 5080 there were two large and several small concretions.

In these 3,550 autopsies the appendix vermiformis was reported to have been the seat of tubercular lesion ten times; cases 5507, 6901, 5275, 5421, 6499, 6504, 6779, 6225, 5104, 5982. A fact worthy of note is that in each and every one of these ten cases the tubercular lesions in the appendix coexisted with tubercular lesion elsewhere in the organism; that in all of these cases tuberculosis pneumonitis of one or other variety was invariably present. Not one of these cases of tuberculous appendicitis was primary. These were all secondary, either by continuity of tissue, as extension from tuberculosis of neighboring coils of intestine; or by vascular transplantation. We are forced to state that tuberculosis of the appendix vermiformis is but exceptionally primary and isolated. In four of these cases the organ was free, was non-adherent; in six it was adherent to some neighboring structure. In some of these cases the tuberculous process in the appendix vermiformis had led to the formation of caseous areas; in others to ulcer formation; in others simply to the formation of tuberculous granulation tissue. In some the process was limited to the internal coats; in others to the external coats; in others it involved all the coats. In all these cases the tuberculous appendicitis was not productive of symptoms sufficiently marked to lead to its diagnosis during life.

Twice (cases 5305, 5912) the appendix was the seat of typhoidal disease, in both of these cases typhoidal disease. In both of these cases typhoidal lesions in other parts of the abdominal coexisted (intestines, mesenteric glands, spleen). In case 5205 there were submucous hemorrhages; in case 5912 ulcers were present.

In case 5272 there was a cavity between the folds of the

meso-appendix communicating with the lumen of the appendix, and containing thick pus.

The appendix was found to be the seat of acute inflammation (non-suppurative in character, that had not been pus-producing) 41 times. In six cases pus was found in the cavity of the appendix, that is, in 6 cases we had an empyema of the appendix.

The appendix vermiformis was found to be the seat of neoplastic disease three times (cases 6200, 6178, 6002). In each of these cases the neoplasm was a carcinoma. In each of these cases the appendix had been involved secondarily by the neoplastic process. In each the primary tumor was in the stomach. Benign neoplastic or sarcomatous change in the appendix was not found in any case. In two of the cases reported the tumor was apparently secondary by vascular transplantation; in one secondary, by extension by contiguity. (Appendix was adherent to stomach by tumor mass.)

The following shows the great improvement in the understanding of indications for operation in appendicitis, and in the performance of the various operations for this condition that has taken place during the last decade.

Between the years 1893 and 1896 there came to the autopsy table at the Cook County Hospital 19 cases, which had been operated for appendicitis, and in which suppurative peritonitis was present; while between the years 1896 and 1905, inclusive there only came to the autopsy table five such cases.

The operation performed in those days is best understood and appreciated by the following, taken from the post-mortem records:

Case of L. Jackson, March 20, 1895. In right iliac region wound is found 7 cm, long, partly closed by sutures. Through this incision protrudes a loop of intestine and a gauze drain; appendix was found adherent to psoas, and had a perforation at lower third.

(Operation for appendicitis.)

Case of L. Jones, exam. February 10, 1895.

In abdominal wall in median line an incision of about four inches in length was found packed with iodoform gauze. Omentum and intestines found matted together. Appendix found bound down to psoas and red in appearance. Constriction about $\frac{3}{4}$ cm. from tip.

(General suppurative peritonitis.)

Case of J. G. Simons, February 4, 1893.

Appendix, colon and omentum found adherent in right iliac region. Appendix surrounded by granulating tissue. Looks on separating adhesions like a large ulcerating cavity.

Case of Joseph Kubat, April 7, 1895.

In right lower quadrant, 8 inches scar found; omentum adherent to peritoneum under scar. Appendix present and adherent to abdominal wall.

These post-mortem records affirm the following facts concerning the appendix vermiformis:

1. That it is almost always an intraperitoneal organ; exceptionally, it is extraperitoneal, and then usually only partly so.

2. That it has been found in nearly every portion of the abdominal or pelvic cavities.

3. That it may form the contents or part of the contents of a hernial sac.

4. That its presence in a hernial sac does not render it immune from the lesions to which it is subject when normally located.

5. That it may be adherent to any intraperitoneal organ or structure.

6. That it may be adherent to same extraperitoneal structures, kidney, retrocolic cellular tissue, etc.

7. That pathological conditions have been found which seem to indicate that inflammations can extend from it to neighboring organs and structures to which it is adherent, and vice versa.

8. That in the diagnosing of obscure abdominal and pelvic conditions the probability of a previous or of an existing appendicitis must be considered.

9. That pus may be present within the cavity of the appendix, within the walls of the appendix, or the condition of peri-appendiceal abscess may occur.

10. That inflammation of the appendix may terminate in resolution, in adhesion formation, in obliteration of the appendix (partial or complete), in intestinal thickening, in gangrene, ulceration and perforation of the organ; may terminate in suppuration.

11. That one attack of appendicitis predisposes to other attacks, until complete obliteration of the lumen of the appendix has taken place.

12. That the condition of supernumerary appendix does not occur.

13. That congenital absence of the appendix, if it occurs, is so infrequent as to be ignored, from a clinical standpoint.

14. That the appendix may vary in length from $\frac{1}{2}$ cm. to 26 cm.

15. That the lodgment of foreign bodies in the lumen of the appendix is an infrequent occurrence, only two cases, excluding enteroliths, having been observed in 3550 cases.

16. That neoplastic disease of the appendix is uncommon. We are inclined to think that neoplasms of the appendix are almost always secondary either by continuity or contiguity of tissue, or by vascular transplantation. We have never met with a primary case. Some primary cases, however, have been reported.

17. That this organ may be the seat of lesions of the same nature as can occur in other portions of the alimentary canal, viz.: typhoidal, tubercular, actinomycotic, dysenteric, etc.

18. That tuberculous appendicitis is always invariably secondary.

19. That the lessened frequency during the last decade of diffuse suppurative peritonitis following operations for appendicitis is due, first, to more exact diagnosis; second, to earlier operation; third, to excision of the appendix and its mesentery in cases not complicated by periappendiceal

abscess; fourth, the better and more perfect technique on part of operator.

20. To limiting the surgical intervention in cases of periappendiceal abscess to incision and evacuation and drainage of the pus cavity, if the appendix be not easily accessible.

APPENDICEAL LESIONS AND LOCATIONS.

BY W. A. EVANS, M. D., Chicago.

Professor of Pathology, Medical Department University of Illinois.

This paper is a discussion of Dr. A. P. Heineck's paper read before the Chicago Medical Society, Feb. 7, 1906. Dr. Heineck's paper is an analysis of the data relating to the appendix in 3550 autopsies. The following is a resume of his findings:

Number of Post Mortem records examined 3550.

Appendix adherent to a neighbor or structure, 13.6 per cent.....	486 List.	{ Caecum 357 cases Psoas 44 cases. Hernial sac 5 cases. Omentum 16 cases. Sm. Intes. 18 cases. Asc. Col. 10 cases. Parietal wall 18 cases Brim of Pelvis 8 cases Rectum 2 cases. Stomach 1 case. Liver 2 cases. Urinary blad 1 case
Appendix found in a hernial sac.....	2	
Appendix retroperitoneal.....	15	
Shortest appendix found.....	$\frac{1}{2}$ cm.	
Longest appendix found.....	10 inches	

Tuberculous appendicitis 10 times was invariably secondary to tuberculosis in lungs; was invariably associated with tuberculosis of the peritoneum.

Carcinoma of the appendix 3 times invariably secondary twice by metastasis; once by contiguity of tissue.

No case of supernumerary appendix recorded.

No case of the absence of the appendix not attributable to operation or to sloughing recorded.

Two appendices with typhoid lesions, were associated with typhoid lesions elsewhere, 20 cases of kinked appendices.

Foreign bodies found in the appendix as follows:

Grape seed one case.

Fish bone covered with concretions one case.

Enteroliths 25 cases.

Partial or complete obliteration 20 times.

Empyema of the appendix 6 times.

Appendix in one case was found in the ascending colon. The lower end ileum had passed upward through ileocaecal valve with the caecum into the colon

These statistics will be misleading unless we state some of the circumstances which prevail in the institutions.

Surgical cases seldom come to autopsy. Six cases of empyema of the appendix probably were not so diagnosed during life. It is probable that none of these cases had a clinical diagnosis of acute appendicitis. Therefore the figures would be misleading if by them an effort was made to judge of the frequency of appendicitis in Cook County or out of it. Combined with an analysis of case histories of diagnosed appendicitis and comparison then being made with total admissions to the hospital might give some valuable data.

We note first that 13.6 per cent of all the people coming to autopsy show adhesions around the appendix. I do not think this means prior attacks of appendicitis necessarily. Infection of the appendix is primarily on the mucosa surface in the majority of instances. A mucosa and sub mucosa infection accompanied by considerable destruction is possible without infection of the serosa. Therefore there are cases in which there have been appendicitis which do not show peri appendiceal adhesions post mortem.

But more important from the standpoint of this paper is the fact that we can have peri-appendiceal adhesions without appendicitis. The intact mucosa is only a partial barrier to the passage of mild bacteria. As Futterer has shown, colon bacillus commonly traverses the wall and finds its way to the liver and is thrown back into the intestine by the bile routes. Many more are destroyed in the mesenteric lymph channels and nodes. Nichols has demonstrated that polyserositis, including porcelain and other varieties of peritonitis are due to bacteria of this group. Many observations by Ravenel and others have demonstrated the capacity of tubercle bacilli to traverse an intact intestinal wall. Every one of large autopsy experience on adults has

noted the almost habitual evidence of this in some degree. It may be nothing more than the white streaks along the lymph channels. In that form of chronic peritonitis which is usually a part of polyserositis there is a very general overgrowth of fibrous tissue, but it is especially marked posteriorly and superiorly in the abdominal cavity. The nature of the mass indicates that the infection has been mild and continuous for a long time. No evidence is ever found that there has been any primary pathology in the lining of the ducts. There has been a long continued leakage of bacteria. To this group belong the lesions around the appendix, the cæcum, the sigmoid and in the vicinity of the psoas muscles. Dr. Byrce Robinson attributes importance to the physical forces originating in the psoas muscle in the development of appendicitis. I am ready to agree with him that the acts of this muscle contribute to the development of these adhesions. Incidentally I may say that I think that these sub endothelial thickenings should be separated from the distinct cord-like adhesions both for clinical and etiological reasons.

If these adhesions do not indicate that the subject has had appendicitis then what do they mean. They are etiological factors in the development of appendicitis amongst other things.

Appendicitis occurs because the tube can not empty itself. The tube having become occluded infection occurs with the bacteria that just before were present but unproductive. Colic precedes temperature, tenderness and leucocytosis. That the average appendix bound by adhesions will have a less capacity for emptying itself can not be gainsaid. A study of strictures teaches us the importance of freedom of vermicular movement. The strictures of the gastro-intestinal tract occur almost exclusively in the fixed places. The tubes that have much capacity for longitudinal movements are free from them except when adhesions have made longitudinal movements impossible. The reason is that the fibres of scar tissue run in the direction of "pull." If an intestinal wall is being pulled longitudinally

its scar tissue will run the same way and organic stricture does not result. If it is fixed, distention and contraction is the only movement and the scar tissue fibres come to run circularly. Whenever the appendix is fixed any mild appendicitis or follicular ulcer, typhoid patch or other lesion is liable to result in stricture which of course predisposes to appendicitis.

The fact that the appendix was found held in so many different localities would show its wide range of wandering.

If in 3550 autopsies the appendix was always over one-half inch in length, except where it had been removed by operative procedure, would indicate that the supposedly normal tendency to obliteration of the organ is not very great.

These figures would also show that the appendix has but little pathology outside of the infections that originate in it.

453 Washington St.

CLASS PROPHECY.

On examining the pamphlets I found that all American delegates and visitors were to assemble that evening in the spacious parlors of the Grand Hotel where a banquet was to be given. As I entered the hallway that evening I was asked to register, and after so doing I glanced hurriedly through the list and saw the names of several people whom I hoped might prove to be old familiar friends.

Approaching the parlors I heard loud applause and the cry "Hurrah for Teddy!" Could it be possible that our Teddy Roosevelt was among the guests? But that idea was soon cast to the winds when I saw the familiar face of Floyd W. Newell, who with many bows and flourishes, and a beaming countenance passed gracefully to the piano and struck up the old familiar tones of America. Afterward he showed his musical talent by playing a very classical selection,

As soon as the occasion would permit I made myself known to him and found he had been studying music for a year in Vienna. He then said "have you met the rest of

the boys from our old class? There are quite a number of them here." He led me to a group of ten or more all talking very earnestly. I recognized at once Noble Van Zant, D. A. Harwood, R. R. Harris, Russell Davis, A. W. Haeffner, Geo. A. McLane, Geo. Woodnick, A. R. Sourensen, L. M. Schmidt and E. H. Clark. Mr. Van Zant was entertaining the group by one of his fish stories. R. R. Davis informed me that R. R. Holmes, who is located in the same town as himself, had intended to take the trip to, but had changed his mind and got married instead.

R. R. Harris has a good practice in an Ohio town besides being a railroad physician at that place. He then said to me, "Do you remember Miss Rebecca M. Yampolsky? She finally got married. Fell in love with the patient she was doctoring and is now connected with the United Hebrew Dispensary in Chicago."

D. A. Harwood then remarked that I probably would be surprised to learn that Leroy Peters had gone to China as a medical missionary, and that Robert M. Ross had gone to the Philippine Islands on the same mission, but that poor Ross had had a narrow escape from being killed because he was not able to bring back to life the daughter of an old native chief.

Geo. A. McLane is located in Cork, Ireland, where he is considered one of the best authorities on the diseases of children, and as I recall the many incidents in his make-up, there floats before me a domestic scene; there in his arm chair before the fire-place sits the staid family physician watching the flames leep up the chimney while a cheery warmth and brightness is thrown over the room. Opposite sits his wife whom he married while a freshman at the P. and S. We can still smell the aroma of the cigars which Mac passed out on that joyful occasion.

E. H. Clark has charge of the sanitary improvements of cities along the route of the Panama Canal, having been appointed to the position by President Roosevelt.

Geo. Woodnick, to whom the medical world has awarded the highest prize, not only for his skill in the treatment

of the diseases of the mind, but through the discovery of an operation upon the "Pars triangularis" of the inferior frontal convolution of the cerebrum, by which the "Homo delinquens" of Lombroso are cured, thus solving the problem of "How to stem the tide of crime."

L. M. Schmidt is surgeon general in the army having gained first place in a competitive examination at Washington, D. C., and by his push and strictly tending to business has by rapid progress reached his present position.

The next day in company with Messrs. Haeffner and Sorensen, I attended the second session of the congress when we listened to a paper on the streptococcus of smallpox, its growth and mode of production of disease, by Wm. E. O'Neil. Hard study and persistent effort on his part had enabled him to bring to light this wonderful discovery, and with it he has earned himself a great name.

I was returning to my hotel, and just crossing the street, when I was struck by an automobile and thrown senseless to the ground. When I gained consciousness I was lying in a hospital with my wounds bandaged, but was told that they were not at all serious. A week later I was able to be out again and determined at once to return to America. I set sail the next day, and after a few days voyage I reached Boston. My wounds being more serious than was supposed I found it necessary to spend a few days in a sanitarium, and after making inquiries I was directed to the Dewey-Provine.

The name sounded familiar so I decided to go there. After my wounds had been dressed by a nurse I asked her a few questions in regard to the sanitarium, and she told me that Dr. Fred G. Dewey and Dr. Geo. S. Provine were the founders, and that it had been in existence six years. As I was about to leave the institution I asked to see the above named gentlemen. In the course of the conversation I learned that T. G. Knappenberger had been appointed minister to Porto Rico, and that Alfred L. Olson was in Buffalo editing a medical journal. They also said to me "Do you remember Samuel Fomen? Well, he has sent out a revised

edition of Gray's Anatomy, which is being introduced in many of the medical colleges."

I then asked them if they knew anything about R. H. Solomon. "Why, yes, he is professor of mental diseases in an asylum."

I had just crossed the long bridge leading from Boston to Cambridge and was plodding my way on foot through that not very agreeable suburb on a sultry afternoon with a thunderstorm coming up in my rear, when a stout, elderly gentleman reigned up his horse, and after learning that I was bound for Cambridge, invited me to take a seat beside him.

I quickly learned that I was riding with W. B. Siders who had grown so portly that I did not recognize him.

Our conversation naturally turned to our school days and acquaintances, and he told me that H. B. Harper, owing to his hustle and enthusiasm is enjoying a fine practice in Black Diamond, Washington, besides owning half interest in one of the large coal mines there. Every time I hear of Harper it recalls to me the time he was on guard duty at one of the reformatories in Ohio. It seems it was his duty to trace up runaway boys, and so it happened that one night two boys were found missing and he was detailed to take the blood hounds and find them, and after walking seven and a half miles in 45 minutes the boys were found sound asleep in an old straw stack. It was this early training that makes Harper so conspicuous on the streets, for he calls on his patients with the same regulation of speed, that to see him go you would think his patients were breathing their last, so that he is known in Black Diamond as "Hustling Harper."

I had determined to make a tour of the States before returning to my home in Los Angeles, and with that idea in view I boarded a train for the Quaker City. On Sunday I decided to attend services in a large cathedral whose pulpit I had learned was occupied by John M. Hench.

I listened intently throughout the sermon to a most eloquent minister and in a short talk after the service he told me he had entered the ministry soon after leaving school. He then invited me to take dinner with him and meet his wife, which I did. After a very tempting meal we retired to his study room to pass an hour or two talking over school days. Reminiscences of old were brought fourth and we were having a jovial time when we were interrupted by a summons from below asking to see the Reverend Hench.

To be Continued.

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COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT

UNIVERSITY OF ILLINOIS.

CHICAGO.

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DEATH OF DR. AUGUST F. LEMKE.

Dr. August F. Lemke; P. & S. '95, died in California January 6, and was buried at Ottawa, Ill., Sunday, Jan. 21. After graduation Dr. Lemke secured an internship at Cook County Hospital, where his services were of so high an order as to attract especial attention of prominent physicians and surgeons. After completing his internship at Cook County he was appointed pathologist at the Eastern Illinois Hospital, at Kankakee, from which position he was called to Chicago to become assistant to Dr. J. B. Murphy, with whom he was later associated. The many friends of

of Dr. Lemke will deeply regret the untimely ending of so brilliant a career.

A NEW HOSPITAL AT HUTCHINSON, KANSAS.

The Stewart Hospital Association and Training School for Nurses was organized by the Physicians of Hutchinson, Kansas, Monday, Jan. 15, at the office of Drs. Klippel & Foltz.

The capital stock of the association is \$20,000, and the officers are: Dr. C. Klippel, President; Dr. J. E. Stewart, Vice President; Dr. J. Foltz, Secretary, and Dr. R. A. Stewart, Treasurer. The Secretary, Dr. J. E. Foltz, graduated from P. & S. in 1904, and the Plexus tenders congratulations to him because of the honor bestowed on him.

Mr. and Mrs. Edward M. Brown announce the marriage of their daughter Pearl, to Dr. Heikobus Johannes Hubertus Hoeve, '05, Thursday, February 1st, 1906, at Des Moines. Iowa.

At home after February 1st, 1403 Twenty-fifth street, Des Moines.

JUNIOR NOTES.

The Junior class has made an addition to its museum. We already possessed quite an exclusive collection of fossils, antiques, new growths, recent specimens, some of which are still quite "fresh" by the way, psychological freaks, etc., but we have recently acquired a Jewell. Is it the "Pearl of Great Price," or the "Pearl that was cast among swine?"

Mr. Beers, a member of the class during the sophomore year, was a visitor at P. & S. on January 27th.

It happened in the gynecology department of the dispensary:

Dr. Ettleson, after a tedious search for a diseased uterus: "I got it, I got it."

Voice from the other side of the curtain: "Keep it then."

Dr. Davison tells the following story of a man who came to the hospital where he was an interne to be prepared for an operation. The patient objected to the bath which is part of the usual procedure in such instances. The interne asked, "haven't you ever taken a bath before?"

The patient replied: "No, I have never been sick before."

We may conjecture that he must have been a disciple of a certain Chicago physician well known to you on account of his total abstinence from the use of soap and water.

Dr. Davison, quizzing on surgery of the gall bladder: When would you use drainage?

Mr. Buckner: When gall (Gahl) is present.

Dr. Witherspoon: What is Epistaxis?

Mantz: It is the vomiting of blood.

Dr. Cook, calling the roll: Mr. Allison?

Allison: Hello!

Did Allison imagine he heard "her voice" calling him over the phone?

In gynecology dispensary.

Doctor: What would you do for congestion of the uterus?

Wallinski: Hot vaginal douches taken three times daily after meals.

In medicine quiz.

Quiz Master: Name some of the parts of the urinary tract beside the kidney.

John Aimone: Well, aw, there's the liver. John, much excited by the outburst occasioned by his answer, "Aw! No! No! I mean the uterus!"

The Junior class recently witnessed a unique contest during a clinic. One of the popular surgeons who holds a clinic for the junior class in 406 was lecturing to the class. The sterilizer that stands in the corner of the operating pit, out of a spirit of emulation or a super abundance of pressure, started to blow off steam. It was steam versus

hot air, and much to the surprise of the class the steam got the better of air silencing, its opponent.

Sayings by our witty members: A man's judgment isn't necessarily sound because he agrees with you.

All things come to him who works.—Junior quiz class.

Wisdom is the principle thing; therefore get wisdom, and with a little getting get understanding.—Proverbs iv, 7.

The following story is related by Prof. Wiggin:

A visitor at a certain asylum was informed that there were 60 cases of automobile insanity in the institution. Upon expressing a desire to see them he was taken to a room wherein he saw about ten men. "Why I thought you said there were sixty of them," he remarked. "Oh, yes," replied the keeper, "you'll find the rest of them in the adjacent rooms under the beds looking up at the slats."

Dr. Shaw, in speaking of wounds of the sinuses, cited a case in which the superior longitudinal sinus was wounded. According to Dr. Shaw, a "friend" had struck the patient on the head with a pickaxe, a rather remarkable and striking expression of friendship we think.

The Juniors are expectantly waiting to see Ettleton and Dr. Shaw come to an "understanding." We predict great things for the occasion, so be sure and be present.

SENIOR NOTES.

The Annual Reception in honor of Dean William E. Quine was given by the Senior class of the College of Physicians and Surgeons on Wednesday evening, February 7th, at Illinois Hall. This was the anniversary of his fifty-ninth birthday, of his thirty-sixth year as teacher in medical schools and of his twenty-third year as professor in the College of Physicians and Surgeons. Dr. William E. Quine was born in the quaint old town of Kirk St. Ann, in the Isle of Man, February 9th, 1847. His professional education was obtained in this city where he graduated from the Chicago Medical College, March 1st, 1869 after which he

served as interne in Cook County Hospital for a period of two years. Immediately following his graduation he was appointed Professor in Materia Medica in the Chicago Medical College.

In 1883 Dr. Quine severed his connection with his Alma Mater to accept the Professorship of Practice of Medicine in the College of Physicians and Surgeons.

When the office of Dean was created by the affiliation of the College of Physicians and Surgeons with the University of Illinois Dr. Quine was made dean of the School of Medicine by the Executive Board of the University. In 1904 the same institution conferred on Dr. Quine the degree of L. L. D.

The president of the class, W. A. O'Neil, in a brief address aptly voiced the sentiments of the class towards our beloved dean, and closing, presented Dr. Quine with an electric lamp as a token of esteem from the class. Dean Quine in his usual genial way so familiar to us all, made a few well-chosen remarks expressing his sincere appreciation of the good will of the class. The reception being formally closed the remainder of the evening was spent in dancing and general merry-making.

The rumor circulating regarding the disastrous results of the last examination in obstetrics in one of the sections, has caused no little anxiety among the members of the class generally. Our genial vice-president, Fairhall, who was entrusted with the custody of the flunk slips, was for some time fairly bombarded with inquiries from those who felt their shortcomings in spelling and punctuation. A revision of the examination papers, however, reduced the number of flunkers considerably, so that most of us now feel more at ease and no longer approach either Fairhall or the quiz-master with the trembling and fear that possessed us previous to the first verdict.

We all rejoice at the return of G. B. Lutyens, who was called home some weeks ago on account of the illness of his brother, Dr. Lutyens, a busy practitioner in Springfield, Ill. Dr. Lutyens, who suffered from pneumonia with several complications, is now on a fair road to recovery.

SCHOOL OF PHARMACY. OF THE UNIVERSITY OF ILLINOIS.

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PHARMACEUTICAL ARITHMETIC.

BY WILHELM BODEMAN.

Address before the Students of the School of Pharmacy, Jan. 31, 1906.

This is the subject allotted to me by your teacher, my friend Mr. Day. To be frank with you, I spent several afternoons in our libraries to find out just what pharmaceutical arithmetic is, but all in vain. Had I the forensic eloquence of your Professor Hallberg and the microscopic, analytic insight of your Professor Day, I might succeed in solving the riddle of explaining it to you, but being only an ordinary, common, every-day druggist, I acknowledge and confess my inability to master the subject of giving you a scientific definition of Pharmaceutical arithmetic.

The standard reference books give the following: "Arithmetic is the study of numbers". The new Century Encyclopedia says "Arithmetic as opposed to algebra is the practical part of the science, although the processes of arithmetical operations are often quite complicated, they all resolve themselves into the repetition of the four primary operations: addition, subtraction, multiplication and division"; and it may be added that these operations are

identically alike in pharmacy, medicine, fortune-telling or poker. There is no more pharmaceutical arithmetic as there can be any other specialty of this science. How does that figure with the study of Pharmacy? You cannot make an infusion of numbers, but numbers can make an awful lot of confusion, if applied wrongly. It is said "Figures don't lie", but if the figures are wrong, you have to lie like blazes to make others believe they are right, or as the case may be, to get out of the trouble caused by the wrong figures.

A good deal has been said of late about increasing or elevating the requirements for admission to schools of pharmacy or to Board examinations.

In the *Era* of January 25th, I find the following from the Missouri Board: "But one-third of the candidates at the January examination passed the Board. The older men passed more generally than the younger men. Many of those who failed gave woeful evidence of lack of common-school education." This shows that Missouri and Illinois are not far apart. Why it is that the East should be the Hub of Higher Education, I fail to see, but for us in the West it would be futile dalliance to demand a high school diploma for our students or Board candidates. Let us have good milk before we ask for cream, at present our milk supply is mighty thin, as full of water as the Traction Company stock.

In my humble opinion it would be highly beneficial to look into the conditions of our public schools, and ascertain the reason why so many of the graduates of the eighth class are deficient in the simplest problems of arithmetic. and in this investigation attempt to find an explanation why the graduates from country schools excel the graduates from city schools and furthermore find an explanation why the high school graduates are in so many instances more deficient in plain arithmetic than the graduates from the eighth grade of the public school. My observations lead me to think that in city schools, too much attention is given to the branches, and too little to the root, I repeat, too many branches, too little root, and by root, I mean

“Explanation”. If the working of ordinary division, multiplication and addition problems is once thoroughly explained to a boy of average intelligence, it seems impossible that he should forget the working formula, provided he once entirely understood the whys and wherefores and hows. And right here I wish to say that the very term of pharmaceutical arithmetic appears to be a bug-bear to many students of pharmacy. This was almost a revelation to me when I began to conduct oral examinations for admission to registration in this state. I had a young man before me, who seemed to be intelligent, and yet when I asked him on reading a prescription for 3 ounces 5 per cent carbolic acid solution, he replied that he was short in pharmaceutical arithmetic. I asked what he meant by pharmaceutical arithmetic and he answered that he meant the figuring our percentage solutions.

Looking at the physiognomy, I sized him up as belonging to that nationality that are very proficient in figuring out percentage of interest on loans, and I suggested if he had ever loaned out or borrowed money on interest, and if so what the amount of 5 per cent on \$100.00 meant, and he brightened up and said: “Oh yes, I know that all right, but I cannot do pharmaceutical arithmetic.” This individual experience has been quite often repeated since and I have often hoped and wished to see some of our richly endowed institutions of learning establish a prize for the best essay on “What is the difference between every day arithmetic and pharmaceutical arithmetic?”

If young men have a notion that pharmaceutical arithmetic is a separate and distinct study, perhaps, that is the reason why they fail, because in examinations as in other things, confidence and self reliance is the main stay. But, this all a delusion, There is nothing to it, there is no pharmaceutical arithmetic and the sooner our young men realize this truth, the better for them and for pharmacy.

Teachers and educators may differ widely as to what amount of preliminary education should be required for admission to schools of pharmacy and to board examinations.

There can be no difference of opinion on this one point that no man can be a safe pharmacist, who cannot safely and swiftly figure out ordinary problems, such as come up every day behind the counter in figuring out doses in prescriptions, and in percentage solutions. This much arithmetic is a condition *sine que non*. It is entirely probable that a young man has for two terms studied chemistry, pharmacognosy, microscopy, etc. and studied it hard, and in spite of all that, when he comes up before a Board, fails badly. Why should this be so?

The majority of Board examiners are not teachers, and perchance not very heavy weights in the realms of scientific pharmacy, but they are active, practical pharmacists and believe that no man should be admitted to the practice of pharmacy, who is not proficient in problems that present themselves in the daily work of the every-day retail pharmacist.

I do not hesitate to go on record here as I have done on several occasions that in my estimation the ideal board examination would be the one where the scientific and theoretical part would be conducted by experienced teachers whose business it is to examine in these branches and who have experience in such work, while the practical work, and you may call it the clearing house work of the examination would be performed by active, retail pharmacists. Thus many a young man might quickly learn where he needs special study, or if he has equipped himself scientifically, where he is lacking in practical work, receive pointers from the examiner and in due time correct his shortcomings.

Take for instance my specialty in examinations, the oral. For some reason or other, I have had this branch of examinations more than any other, from my first examination as member of the Illinois Board in January, 1889. In this oral examination prescriptions are submitted to the candidate, originally for the purpose of testing his ability to read prescriptions. But I take it that the candidate should have mastered the art of reading while he tackled

the first and second speller or reader, and I make use of this branch of the examination to see what the candidate knows about pharmacy, and naturally the question arises, what does a patient receive in each pill, capsule or teaspoonful?, and here is where so many plead guilty as to inability to do pharmaceutical arithmetic.

We established, soon after I was appointed on the Illinois board, a preliminary examination and for apprentices we discarded the recognition of school certificates, for the very reason that so many in possession of these certificates could not do simple problems of arithmetic. Soon after testing this mode of procedure, the apprentice law was changed so that experience in this state is computed from the date of apprentice registration, and no candidate is admitted to further branches in assistant pharmacist and registered pharmacist examinations, who does not pass a successful preliminary examination. From this experience, fearfully actual as it was, you may understand and realize why we feel that this agitation of regents counts and equivalents of high school work does not strike us as forcibly as it does some advocates of those parchments. The real thing is always better than its equivalent, and we feel that Illinois is far ahead of most states on account of the carefully watched gate at the entrance to pharmacy.

It may amuse you or make you feel sorry to hear the experience I had in this problem:

Quinine 30 grains.

Strychnine $1\frac{1}{2}$ grains.

Arsenious acid $\frac{3}{4}$ grain. made into 30 capsules.

The answer of 75 per cent of a class at the time we introduced the preliminary examination was 1-15 grains of strychnine and 1 $22\frac{1}{2}$ or arsenic, and this was the way this answer was obtained:

1 grain to 30, 1-30.

Half of that, 1-15.

Added 1-45.

$\frac{3}{4}$ grain arsenic being half of $1\frac{1}{2}$ grains, half of 1-45 will be 1- $22\frac{1}{2}$.

And many of these candidates were high school graduates. This would go to show one of two things; either that one candidate got the answer wrong and the rest copied the wrong answer, or that incompetence in plain arithmetic is epidemic or contagious, or, and this is probably the most plausible explanation, that our public school training is below zero, and to demonstrate this is really the object of my appearance before you today.

Never miss a chance to point out this weakness in our much-boasted school system, costing untold millions, the pride of American liberty and government. It should make good business men out of our boys in this commercial age of a pronounced commercial nation. Does it fill the bill? You know my views, you are the jury to give the verdict.

By all means for scientific pharmacy's sake, as well as for commercial pharmacy's sake, let us have public schools that look after the roots, and let the branches take nourishment from the roots. We cannot look for a higher scientific pharmacist with poor preliminary education and our commercial pharmacist would be able to figure out that selling goods at 90 cents that cost a dollar does not round up a healthy percentage of margin at the close of the fiscal year.

Do not conclude from what I said that all a pharmacist needs to know is arithmetic. That would be unqualifiedly ridiculous, but I do say that no man can be a good competent pharmacist without being able to figure out plain arithmetic problems. It would be as nonsensical to claim that all a pharmacist needs to know is to be able to read, but you will agree with me that no man can be a pharmacist who cannot read. I could never comprehend how a student in a school of pharmacy could graduate without being up in arithmetic. I could never comprehend how such a school could do such a student any good, and I absolutely fail to understand how such a student, if he does graduate, can be an honor to such a school. It would therefore be in the best interest of all schools, no matter what their requirements for admission, if these schools would establish a preliminary examination to pass on the qualification of their

matriculates, and to rigidly exclude those who cannot pass an examination in arithmetic.

I hope that you appreciate my blunt declaration of my view point. I hope that none of you come under the head of weaklings referred to in my remarks, and in conclusion I hope that when you come to your respective state boards for registration, you will march triumphantly through the arithmetical gate into the inner Temple of Pharmacy.

ALUMNI NOTES.

A. G. Vogeler '73, for many years editor of the Western Druggist, and who went to Isle of Pines, Cuba, in search of health, two years ago, is now contributing to the editorial columns of the *Isle of Pines Appeal*.

E. R. Wolfner '84, has sold his pharmacy at 351 S. Clark St., Chicago, to J. X. Rivard, and has gone to New York, where he will be manager of the drug, tobacco and confectionery departments of the Siegel Store.

William Stroetzel '98, has sold his drug store at 1426 Addison Ave., Chicago, to G. W. Herzberg.

Ray Von Danden '00, has opened a pharmacy at Devon & Clark Sts., Chicago.

Fred H. Drallmeier '00, has purchased the Dashwood Pharmacy at Quincy.

Victor E. Lawrence '03, recently manager of Dyche's Pharmacy, Chicago, is now in charge of the Chicago office of Frederick Stearns & Co.

SENIOR NOTES.

Sparks from the wire:

1. Meixner despondent.
2. Grebel in the lead.
3. Grebel gains by loss of 9 on one side and 11 on the other.

Taylor has made a discovery—the sure way of knowing a thing by sight without necessarily burdening the brain. Apply for Rx,

Taylor witnessed a slight reaction in the shape of an explosion while attempting to identify one of his unknowns, and narrowly escaped being hit in the head by flying pieces of his evaporating dish. He is shaking hands with himself over his narrow escape.

Use Hoffman's Rx. for that tired feeling.

Fox and Hollnagel are despondent since Grebel came over to that part of the house, and a special sergeant-at-arms has been detailed to watch them.

At a recent class meeting it was decided to continue the special lectures every two weeks. The first lecture of the year was delivered by Wilhelm Bodemann on "Pharmaceutical Arithmetic." The lecture proved to be a very interesting one and was very well attended; it is reported in full on another page.

To the Honorable Senators Hopkins and Cullom:

Be it known that the Senior Class of the University of Illinois School of Pharmacy, assembled as a body, appointed a committee to draw up the following preamble and resolutions:

WHEREAS, the attention of this class has been called to a certain bill now before congress, entitled "A Bill to Reorganize and Increase the Efficiency of the Hospital Corps of the Navy of the United States, and to Define Its Duties and Regulate Its Pay" (Senate bill No. 2206, introduced by Hon. Senator Hale), and having Pharmacy as a profession, and its progress such, foremost in our minds, and

WHEREAS, heretofore Pharmacy as such has had no standing in the service of the United States, therefore be it

Resolved, that we unanimously endorse this bill, with the further recommendation that it be passed as drawn up, in its entirety, and be it further

Resolved, that the above bill be amended with a clause providing for the creation of the rank of Pharmacist equal to the rank of Assistant Surgeon, with the same rank, pay, allowances and privileges as such, to be appointed in the same manner as the Assistant Surgeon, thus placing Pharmacy as a profession on a par with the practice of medicine

as it is in the service of the **E**uropean nations. Be it further

Resolved, that we unanimously endorse and thoroughly appreciate any effort extended toward furthering the enactment of this bill, or as amended. and be it also

Resolved, that a copy of these resolutions be spread on the minutes of the class, and that one copy be mailed to each of the Honorable Senators from this state; also one copy to each of the leading Pharmaceutical Journals, and one copy be placed in the archives of this school.

Class of 1906, University of Illinois School of Pharmacy.

F. M. F. MEIXNÉR	} Committee.
CLAUDE E. TILTON	
CHARLES GAUTHIER	

Unanimously adopted Feb. 9, 1906.

JUNIOR NOTES

Mr. Wirtz has left the Mercy Hospital and returned to his home at Princeton, Ind., giving up his school work until next year. He is convalescent from his attack of pluerisy, but not able to resume school work.

Give Prof. Day your name for subscription to the PLEXUS.

Some boys are hustling so as *not* to have to take the "finals." others are hustling so they *can* take the "finals."

Prof. Goodman's lectures on Mythology are O. K. We'd like more.

The dispensing laboratory was opened Monday to the Juniors.

Prof. Hallberg:—Now what is the use of coming to this school?

Some Kid:—That's what I say.

It's all right, McNair: better *early* than never.

Mr. Biggs missed several days of school on account of a trip home, necessitated by the death of his brother.

Schulze and Knick were absent on the 15th taking the Wisconsin examination at Milwaukee.

THE PLEXUS

COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT OF THE

UNIVERSITY OF ILLINOIS,

CHICAGO.

VOL. XII.

BATAVIA, MARCH 20th, 1906.

NO 3.

PHARMACOPOEIAL SUBSTANCES, USES AND DOSES.

BY BERNARD FANTUS, M. D.

Professor of Materia and Therapeutics Medical Department University of Illinois.

Cautharis: Prep. 2. Ceratum cantharidis. 32 per cent.

3. Collodium cantharidatum. 60 per cent.

Capsicum: Uses—Rubefacient. stomachic, carminative. Dose, 0.065 Gm.

Prep.—1. Oleoresina capsici. Dose, 0.03 Gm.

2. Fluidextractum capsici. Dose, 0.05 Cc.

3. Tinctura capsici. 10 per cent. Dose, 0.50 Cc.

4. Emplastrum capsici. Oleoresin spread on adhesive plaster.

Carbo Animalis: Uses—Absorbant, deodorant.

Prep.—Carbo animalis purificatus. Lime salts removed by HCl.

Carbo Ligni: Uses—Absorbent, deodorant. Dose, 1 Gm.

Carbonei Disulphidum: Uses—Solvent.

Cardamomum: Uses—Carminative, stomachic, flavoring agent. Dose, 1 Gm.

Prep. —1. Tinctura cardamomi, 20 per cent. Dose, 4 Cc.

2. Tinctura cardamomi composita, 2.5 per cent.

Dose, 4 Cc.

Carum: Uses—Carminative, stomachic, flavoring. Dose, 1, Gm.

Caryophyllus: Uses—Antiseptic, irritant, local anesthetic, stomachic, carminative. Dose, 0,25 Gm.

Cassia Fistula: Uses—Laxative. Dose, 4 Gm.

Cera Alba: Uses—To stiffen ointments, cerates, etc.

Cera Flava: Uses—To stiffen ointments, cerates, etc.

Cerii Oxalas: Uses—Antemetic, Dose, 0,065 Gm.

Cetaceum: Uses—To stiffen ointments.

Prep.—Unguentum aquæ rosæ. 12.5 per cent.

Chimaphila: Uses—Diuretic, astringent. Dose, 2 Gm.

Prep.—Fluidextractum Chimaphilæ. Dose, 2 Cc.

Chirata: Uses—Simple bitter stomachic. Dose, 1 Gm.

Prep.—Fluidextractum chiratæ. Dose, 1 Cc.

Chloralformamidum: Uses—Hypnotic. Dose, 1 Gm.

Chloralum Hydratum: Uses—Hypnotic, also antiseptic, rubefacient, local anesthetic. Dose, 1 Gm.

Chloroformum: Uses—General anesthetic, antiseptic, rubefacient, stomachic, antemetic. Dose, 0,3 Cc.

Prep.—1. Aqua chloroformi. Dose. 16 Cc.

2. Spiritus chloroformi. 6 per cent, Dose, 2 Cc.

3. Emulsum chloroformi. 4 per cent Dose, 8 Cc.

4. Linimentum chloroformi. 30 per cent.

Chlorum: Uses—Disinfectant, deodorant.

Prep.—1. Liquor chlori compositus. 0,4 per cent. Dose, 4 Cc.

2. Calx chlorinata. q. v.

3. Liquor sodæ chlorinatae. q. v.

Chromii Trioxidum: Uses—Caustic.

Chrysarobinum: Uses—Antiseptic, and skin irritant. Dose, 0,03 Gm.

Prep.—Unguentum chrysarobini 6 per cent.

Cimicifuga: Uses—Astringent bitter. Antispasmodic. Dose. 1 Gm.

Prep.—1. Extractum cimicifugæ. Dose, 0,25 Gm.

2. Fluidextractum cimicifugæ. Dose. 1 Cc.

3. Tinctura cimicifugæ. 20 per cent. Dose, 4

Cc.

Cinchona: Uses—**Bitter** tonic, antimalarial. Dose, 1 Gm.

Prep.—1. Fluidextractum cinchonae. Dose, 1 Cc.

2. Tinctura cinchonae. 20 per cent, Dose, 4 Cc.

Cinchona Rubra: Prep.—Tinctura cinchonae composita. 10 per cent, Dose, 4 Cc.

Cinchonidinae Sulphas: Uses—Like quinine. Dose, 0,25 Gm.

Cinchoninae Sulphas: Uses—Like quinine. Dose, 0,25 Gm.

Cinnaldehydum: Uses—Like oil of cinnamon. Dose, 0,05 Cc.

Cinnamomum Saigonicum: Uses—Flavoring agent, stomachic, carminative, somewhat astringent. Dose, 0,25 Gm.

Prep.—1. Tinctura cinnamomi. 20 per cent, Dose, 2 Cc.

2. Pulvis aromaticus. 35 per cent. Dose, 1 Gm.

3. Fluidextractum aromaticum. Dose, 1 Cc.

Coca: Uses—Stimulant nervine. Dose, 2 Gm.

Prep.—1. Fluidextractum cocae. Dose, 2 Cc.

2. Vinum cocae. 6.5 per cent of fluidextract. Dose, 16 Cc.

Cocaina: Uses—Local anesthetic. Dose. 0,03 Gm.

Prep.—Oleatum cocainae. 5 per cent.

Cocainae Hydrochloridum: Uses—Local anesthetic; mydriatic; respiratory and circulatory stimulant. Dose, 0,03 Gm.

Coccus: Uses—Coloring agent, employed generally in form of carmine.

Codeina: Uses—Analgesic, antitussive. Dose, 0,03 Gm.

Codeinae Phosphas: Uses—Analgesic, antitussive. Dose, 0,03 Gm.

Codeinae Sulphas: Uses—Analgesic, antitussive. Dose, 0,03 Gm.

Colchici Cormus: Uses—Alterative in gout. Dose, 0,25 Gm.

Prep.—Extractum colchici cormi. Dose, 0,065 Gm.

Colchici Semen: Uses—Alterative in gout. Dose, 0,25 Gm.

Prep.—1. Fluidextractum colchici seminis. Dose, 0,2 Cc.

2. Tinctura colchici seminis. 10 per cent. Dose, 2,0 Cc.

3. Vinum colchici seminis. Fluidextract, 10 per cent. Dose, 2,0 Cc.

Colchicina: Uses—Alterative in gout. Dose, 0,0005 Gm.

Colocynthis: Uses—Drastic cathartic. Dose, 0,065 Gm.

Prep.—1. Extractum colocynthisidis. Dose, 0,03 Gm.

2. Extractum colocynthisidis compositum. Extract 16 per cent, Dose, 0,50 Gm.

3. Pilulae catharticae compositae. Compound extract 0,08 Gm. in each. Dose, 2 pills.

4. Pilulae catharticae vegetabiles. Compound extract 0,06 Gm. in each. Dose, 2 pills.

Conium: Uses—Motor depressant. Dose, 0,20 Gm.

Prep.—Fluidextractum conii. Dose, 0,2 Cc.

Convallaria: Uses—Heart tonic. Dose, 0.50 Gm.

Prep.—Fluidextractum convallariae. Dose, 0,5 Cc.

Copaiba: Uses—Stimulant to mucous membranes, diuretic, blennorrhetic, expectorant. Dose. 1 Cc.

Coriandrum: Uses—Flavoring agent, carminative. Dose, 0,50 Gm.

Creosotum: Uses—Antiseptic, local analgesic, antemetic stimulant expectorant. Dose, 0,2 Cc.

Prep.—Aqua creosoti. Dose. 8 Cc.

Cresol: Uses—Antiseptic, disinfectant. Dose, 0,05 Cc.

Prep.—Liquor cresolis compositus. 50 per cent.

Creta Praeparata: Uses—Absorbent, antacid, mildly astringent. Dose, 1 Gm.

Prep.—1. Pulvis cretae compositus. 30 per cent, Dose, 2 Gm.

2. Mistura cretae. Comp. chalk powder, 20 per cent, Dose, 16 Cc.

Cubeba: Uses—Stimulant to mucous membranes. blennorrhetic, diuretic, expectorant. Dose, 1 Gm.

Prep.—1. Fluidextractum cubebae. Dose; 1 Cc.

2. Oleoresina cubebae. Dose, 0,50 Gm.

3. Trochisci cubebae. 0,02 Gm. of oleoresin each.

Cupri Sulphas: Uses—Astringent, dose, 0,01 Gm.; emetic, dose, 0,25 Gm.

Cusso: Uses—Anthelmintic against tape worm. Dose, 16 Gm.

Cypripedium: Uses—Gentle antispasmodic. Dose, 1 Gm.

Prep.—Fluidextractum cypripedii. Dose, 1 Cc.

Digitalis: Uses—Heart stimulant, diuretic. Dose, 0, 065 Gm.

Prep.—1. Extractum digitalis. Dose, 0,01 Gm.

2. Fluidextractum digitalis. Dose, 0,05 Cc.

3. Tinctura digitalis. 10 per cent. Dose, 1 Cc.

4. Infusum digitalis. 1,5 per cent. Dose, 8 Cc.

Elastica: Uses—For making plasters, etc.

Elaterinum: Uses—Hydragogue cathartic

Prep.—Trituratio elaterini. 10 per cent, Dose, 0,03 Gm.

Ergota: Uses—Oxytocic, uterine hemostatic. Dose, 2 Gm.

Prep.—1. Extractum ergotae. (Syn.—Ergotin). Dose, 0,50 Gm.

2. Fluidextractum ergotae. Dose, 2 Cc.

3. Vinum ergotae. Fluidextract 20 per cent.

Dose, 8 Cc.

Eriodictyon: Uses—Vehicle for bitter drugs; stimulant expectorant. Dose, 1 Gm.

Prep.—Fluidextractum eriodictyi. Dose, 1 Cc.

Eucalyptol: Uses—Same of eucalyptus. Dose, 0,3 Cc.

Eucalyptus: Uses—Antiseptic, stomachic, carminative, expectorant, diuretic. Dose, 2 Gm.

Prep.—Fluidextractum eucalypti. Dose, 2 Cc.

Eugenol: Uses—Same as oil of cloves. (See caryophyllus). Dose, 0,2 Cc.

Euonymus: Uses—Purgative. Dose, 0,50 Gm.

Prep.—1. Extractum euonymi. Dose, 0,125 Gm.

2. Fluidextractum euonymi. Dose, 0,50 Cc.

Eupatorium: Uses—Diaphoretic in infusion; mildly laxative. Dose, 2 Gm.

Prep.—Fluidextractum eupatorii. Dose. 2 Cc.

Fel Bovis. Uses—Cholagogue purgative.

Prep.—Fel bovis purificatum. Soft solid. Dose. 0,50 Gm.

Ferri Carbonas Saccharatus: Uses—Hematinic. Dose 0,25 Gm.

Other preparations containing ferrous carbonate:

1. Mistura Ferri Composita. Dose, 16 Cc.

2. Pilulae Ferri Carbonatis. 0,06 Gm. each.

Dose, 2 pills.

3. Massa Ferri Carbonatis. 42 per cent, Dose, 0, 25 Gm.

Ferri Chloridum. Uses—Hematinic. Dose, 0,065 Gm.

Prep.—1. Liquor ferri chloridi. 29 per cent, Dose, 0,1 Cc.

2. Tinctura ferri chloridi, 13 per cent, Dose, 0,5 Cc.

3. Liquor ferri et ammonii acetatis. Tincture 4 per cent. Dose, 16,0 Cc.

Ferri Citras: Uses—Hematinic. Dose, 0,25 Gm.

Ferri et Ammonii Citras: Uses—Hematinic. Dose, 0,25 Gm.

Prep.—Vinum ferri. 4 per cent, Dose. 8 Cc.

Ferri et Ammonii Sulphas: Uses—Astringent. Dose, 0.50 Gm.

Ferri et Ammonii Tartras: Uses—Hematinic. Dose, 0.25 Gm.

Ferri et Potassii Tartras: Uses—Hematinic. Dose, 0, 25 Gm.

Ferri et Quininae Citras: Uses—Hematinic, tonic. Dose, 0,25 Gm.

Ferri et Quininae Citras Solubilis: Uses—Hematinic, tonic. Dose, 0,25 Gm.

Prep.—Vinum ferri amarum. 5 per cent, Dose, 8 Cc.

Ferri et Strychninae Citras: Uses—Hematinic, tonic. Dose, 0,125 Gm.

Ferri Hydroxidum: Uses—Arsenical antidote; for preparation of iron salts.

Ferri Hydroxidum Cum Magnesii Oxido: Uses—Arsenical antidote. Dose, 120 Cc.

Ferri Hypophosphis: Uses—Hematinic, tonic. Dose, 0,20 Gm.

Prep.—Syrupus hypophosphitum compositus. 0,225 per cent, Dose, 8 Cc.

Ferri Iodidum: Prep.—1. Syrupus ferri iodidi. 5 per cent, Dose, 1 Cc.

2. Pilulae ferri iodidi. 0,06 Gm. in each. Dose, 2 pills.

Ferri Phosphas Solubilis: Uses—Hematinic. Dose. 0,25 Gm.

Prep.—1. Glyceritum ferri, quinae et strychninae phosphatum. 8 per cent, Dose, 1 Cc.

2. Syrupus ferri, quinae et strychninae phosphatum. Glycerite, 25 per cent. Dose, 4 Cc.

3. Elixir ferri, quinae et strychninae phosphatum. 1.75 per cent, Dose, 4 Cc.

Ferri Pyrophosphas Solubilis: Uses—Hematinic. Dose 0,25 Gm.

Ferri Sulphas: Uses—Deodorant, astringent, hematinic. Dose, 0,20 Gm.

Prep.—Ferri sulphas exsiccatus. (100 reduced to 65 parts). Dose, 0,125 Gm.

Ferri sulphas granulatus. Dose. 0,20 Gm.

Ferri Tersulphas: Prep.—Liquor ferri tersulphatis. 36 per cent. Used in preparation of other iron salts.

Ferri Subsulphas: Prep.—Liquor ferri subsulphatis. Dose, 0,2 Cc. Mixible with water and alcohol. Used as styptic.

Ferrum Reductum: Uses—Hematinic. Dose, 0,065 Gm.

Ficus: Uses—Laxative, nutritive.

Foeniculum: Uses—Stomachic, carminative, emmenagogue. Dose, 1 Gm.

Prep.—Aqua foeniculi. Dose, 16 Cc.

Formaldehydum: Uses—Antiseptic 1 per cent; disinfectant 5 per cent.

Prep.—Liquor formaldehydi. Syn.—Formalin. 37 per cent aqueous solution. A clear, colorless liquid, of pungent odor and caustic taste. Mixible with water and alcohol.

Frangula: Uses—Cathartic. Dose, 1 Gm.

Prep.—Fluidextractum frangulæ. Dose, 1 Cc.

Galla: Uses—Astringent. Dose, 0,50 Gm.

Prep.—1. Tinctura gallæ. 20 per cent, Dose. 4 Cc.

2. Unguentum gallæ. 20 per cent.

Gambir: Uses—Astringent. Dose, 1 Gm.

Prep.—1. Tinctura gambir composita. 5 per cent,
Dose, 4 Cc.

2. Trochisci gambir. 0,06 Gm. each.

Gelatinum: Uses—Hemostatic, nutritive, demulcent,
protective, vehicle.

Prep.—Gelatinum glycerinatum. 50 per cent.

Gelsemium: Uses—Antispasmodic, antineuralgic. Dose,
0,065 Gm.

Prep.—1. Fluidextractum gelsemii. Dose, 0,05 Cc.

2. Tinctura gelsemii. 10 per cent, Dose, 0,50

Cc.

Gentiana: Uses—Simple bitter stomachic. Dose, 1 Gm.

Prep.—1. Extractum gentianæ. Dose. 0,25 Gm.

2. Fluidextractum gentianæ. Dose, 1 Cc.

3. Tinctura gentianæ composita. 10 per cent,

Dose. 4 Cc.

Geranium: Uses—Astringent. Dose, 1 Gm.

Prep.—Fluidextractum geranii. Dose, 1 Cc.

Glandulæ Suprarenales Siccae: Uses—Local vaso-con-
strictor; circulatory stimulant. Dose, 0,25 Gm.

Glandulæ Thyroideae Siccae: Uses—Alterative in
myxedema, cretinism, goitre, obesity. Dose, 0,25 Gm.

Glycerinum: Uses—Antiseptic; depletant; emollient;
laxative; solvent. Dose, 4 Cc.

Prep.—Suppositoria glycerini. (3 Gm. in each).

Glycyrrhiza: Uses—Demulcent, sweetening agent. Dose,
.2 Gm.

Prep.—1. Extractum glycyrrhizæ. Dose, 1 Gm.

2. Extractum glycyrrhizæ purum. Dose, 1 Gm.

3. Fluidextractum glycyrrhizæ. Dose, 2 Cc.

4. Elixir adjuvans. Fluidextract 12 per cent.

Dose, ad lib.

5. *Pulvis glycyrrhizæ compositus*. 23.6 per cent, Dose, 4 Gm. (Its active ingredient is senna).

6. *Mistura glycyrrhizæ composita*. Ext. 3 per cent, Dose, 8 Cc. (Its active ingredients are wine of antimony and camphorated tincture of opium).

7. *Trochisci glycyrrhizæ et opii*.

Glycyrrhizinum Ammoniatum: Uses—Sweetening agent. Dose, 0.25 Gm.

Gossypii Cortex: Uses—Emmenagogue: uterine hemostatic. (?) Dose, 2 Gm.

Gossypium Purificatum: Uses—As surgical dressing; etc.

Granatum: Uses—Anthelmintic against tape-worm. Dose, 2 Gm.

Prep.—*Fluidextractum granati*. Dose, 2 Cc.

Grindelia: Uses—Expectorant. Dose, 2 Gm.

Prep.—*Fluidextractum grindeliæ*. Dose, 2 Cc.

Guaiacol. Uses—Antiseptic, expectorant, especially in tuberculosis. Dose, 0.50 Gm.

Guaiacolis Carbonas; Uses—Like those of guaiacol. Dose, 1 Gm.

Guaiacum: Uses—Diaphoretic; diuretic; alterative in gout. Dose, 1 Gm.

Prep.—1. *Tinctura guaiaci*. 20 per cent. Dose; 4 Cc.

2. *Tinctura guaiaci ammoniata*. 20 per cent. Dose. 2 Cr,

Guarana: Uses—Against headaches; also in atonic chronic diarrhœa. Dose, 2 Gm.

Prep.—*Fluidextract* in aromatic elixir.

Haematoxylon: Uses—Astringent.

Prep.—*Extractum haematoxyli*. Dose, 1 Gm.

Hamamelidis Cortex: Uses—Astringent. Dose, 2 Gm

Prep.—*Aqua hamamelidis*. Dose, 8 Cc.

Hamamelidis Folia: Uses—Astringent. Dose, 2 Gm.

Prep.—*Fluidextractum hamamelidis foliorum*. Dose, 2 Cc.

Hedeoma: Uses—Carminative, emmenagogue. Dose, 8 Gm.

Hexamethylenamina: Uses—Urinary antiseptic. Dose, 0,25 Gm.

Homatropinae Hydrobromidum: Uses—Mydriatic. Dose, 0,0005 Gm.

Humulus: Uses—Bitter stomachic; mildly narcotic. Dose, 2 Gm.

Hydrargyri Chloridum Corrosivum: Uses—Disinfectant, antiseptic, antisiphilitic, antiphlogistic. Dose, 0,003 Gm.

Hydrargyri Chloridum Mite: Uses—Cholagogue, purgative, antisiphilitic, diuretic. Dose, (laxative), 0,125 Gm. (alterative), 0,065 Gm.

Prep.—Pilulæ catharticæ compositæ (0,06 in each) Dose, 2 pills.

Hydrargyri Iodidum Flavum: Uses—Antisiphilitic. Dose, 0,01 Gm.

Hydrargyri Iodidum Rubrum: Uses—Alterative in skin diseases and in syphilis. Dose, 0,003 Gm.

Prep.—Liquor arseni et hydrargyri iodidi. Dose, 0,1 Cc.

Hydrargyri Nitras: Prep.—1. Liquor hydrargyri nitratis. Used externally.

2. Unguentum hydrargyri nitratis.

Hydrargyri Oxidum Flavum: Uses—Alterative, especially in skin diseases.

Prep. 1. Unguentum hydrargyri oxidi flavi. 10 per cent.

2. Oleatum hydrargyri 25 per cent.

Hydrargyri Oxidum Rubrum: Uses—Alterative, especially in skin diseases.

Prep.—Unguentum hydrargyri oxidi rubri. 10 per cent.

Hydrargyrum: Uses—In fine subdivision: antisiphilitic; laxative; sorbefacient.

Prep.—1. Hydrargyrum cum creta. Murcery with chalk. Syn.—Gray powder. 38 per cent, dose 0,25 Gm.

2. Massa hydrargyri, Mass of mercury. Syn.—Blue mass. Blue sill. 33 per cent, Dose, 0,25 Gm.

3. Unguentum hydrargyri. Mercurial ointment. 50 per cent.

4. Unguentum hydrargyri dilutum. Blue ointment. Mercurial ointment, 67 per cent.

5. Emplastrum hydrargyri. Mercural plaster. 30 per cent.

To be Continued.

THE TECHNIQUE OF CLOSURE OF WOUNDS BY REMOVABLE CONTINUOUS SUTURE.

BY CHARLES DAVISON, M. D.

In my service at Cook County Hospital, all laparotomy wounds that are not drained are closed by apposing each layer with removable continuous longitudinal silkworm gut sutures.

The suture in the fascia of the abdominal wall is fastened by terminal bow-knots upon the upper surface of the fascia, and the free ends of the suture are allowed to protrude from the wound.

The bow-knots are untied by traction on the exposed ends, and the suture removed at the completion of the process of healing.

MEDIAN LAPAROTOMY.

The technique of the suture of the wound in a median laparotomy is as follows: All hemorrhage in the wound in the abdominal wall is stopped by sponge-pressure, by forcipressure, or by torsion; no catgut whatever is used. The edges of the peritoneum are caught with forceps, and are held up, away from the intestine, by an assistant, and the peritoneum is approximated by a continuous hering-bone suture. (Fig. 1.)

The suture is slightly shirred to take up all the slack, the ends are left hanging out of the angles of the wound, temporarily held out of the way by snap forceps.

In a median laparotomy, the linea alba is the strong layer of the abdominal wall, and if this layer be fastened securely, there can be no spreading of the wound. The edges must be accurately approximated. The fat must be cleaned away, so that there shall be no interposition of tissue between the edges of the fascia, as that would weaken the line of union and predispose to ventral hernia. For this suture a perfect strand of silkworm gut, soft and pliable from recent boiling, is selected. A small reverse bow-knot (diagram of which, tied and loose, is shown in Fig. 4) is loosely tied ten or twelve centimeters from the end of



Fig. 1. Median Laparotomy. Suture of Peritoneum.



Fig. 2. Median Laparotomy. Suture of Linea Alba tied in position.

the strand. The edges of the fascia are caught with forceps and held by an assistant.

The suture is introduced in a firm place in the fascia back from the angle of the wound and drawn up to the knot, and the fascia is approximated by a continuous herring bone suture.

The needle perforations in the fascia are placed about one half-centimeter from the edge and one centimeter apart. At the last stitch the suture is shirred up tightly, grasped by a smooth (serrations filed off) dissecting-forceps at its exit from the fascia, held by an assistant, and another reverse bow-knot tied below the point of the forceps. (Fig. 2)

In tying the knot around the forceps, the strand must pass under the forceps, and the loop must pass up from below, or no knot will result.

The greatest care must be used not to crush or fray the silkworm gut with the forceps at the knot, for such a defect might cause the strand to break at that point at the time of removal,

As the bow-knot is intended only to form a body to obstruct the passage of the sutures through the fascia, it should be tied loosely, to make a larger obstruction, and to facilitate its untying at the time of removal.

The ends of the tied suture must not be held out of the way by snap-forceps, as their weight might untie the knots.

The linea alba, being securely fastened, takes all of the tension from the other layers, and the unfastened sutures in the other layers do not tend to pull loose.

The skin is closed by the Halstead subcutaneous stitch. (Fig. 3.)

If the patient is very fat, an extra running suture can be placed to approximate the fat and to avoid a dead space.

If the wound is too long to close with a single silkworm gut strand, it is closed in sections, by repeating each suture.

Lateral celiotomies are closed by suturing each layer of fascia with a tied strand of silkworm gut, not allowing muscle or fat to be included in the suture.



Fig. 3. Suture of Superficial Layer.

INGUINAL HERNIA.

The omentum and hernial sac are treated as usual. A round, straight needle is placed in position at or below the neck of the sac, for a continuous mattress suture. (Fig. 5.)

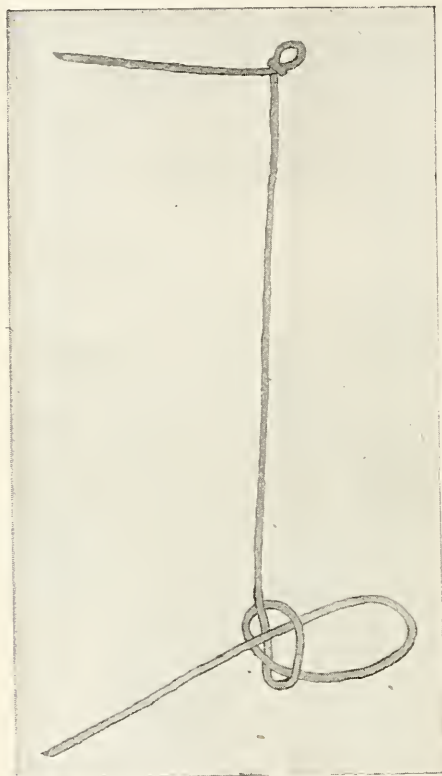


Fig. 4. Diagram of knot.

The sac is cut away, the silkworm gut suture is drawn through and shirred up tightly, the ends fastened together and left protruding from the upper angle of the wound; the stump of the sac dropped back behind the internal ring. If the sac is large, and thick, and old, and liable to bleed, it is cut off at the neck, hemorrhage stopped by pressure and torsion, and the edges brought together with a hering-bone silk-worm gut suture, similar to the peritoneum in a median laparotomy, (Fig. 1.)

The conjoined tendon is drawn behind the cord, and its flat surface is attached to the thick underpart of Poupart's ligament by a continuous tied basting-stitch.

The suture with the first bow knot already tied is passed through the deep, thick, firm, white part of Poupart's ligament, on a level with the lower part of the cord, when it is raised up closely into the upper angle of the hernial opening.

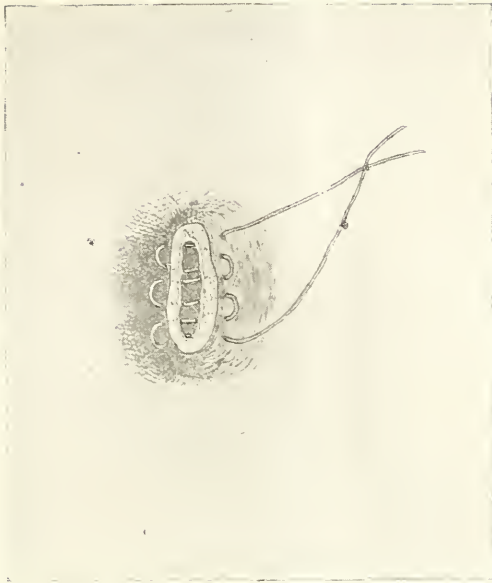


Fig. 5. Inguinal Hernia. Suture of the sac.

The suture penetrates the ligament from the outside and emerges from its internal surface. The suture is next carried across the opening behind the cord and penetrates the conjoined tendon at the same level one centimeter from its edge, emerging on the peritoneal side of the conjoined tendon.

The suture is then returned through the same tissue in the opposite direction, one centimeter below the former perforations (Fig. 6), completing one unit of the continuous basting or sailor's stitch, which, when completed, is tied in position, with the bow-knots on the outside of the ligament and the free ends extending out at the angles of the wound. (Fig. 7.)

This is the strong layer, and when sutured firmly takes the tension from the other layers.

The fascia of the external oblique muscle is sutured to the edge of Poupart's ligament over the cord with a con-

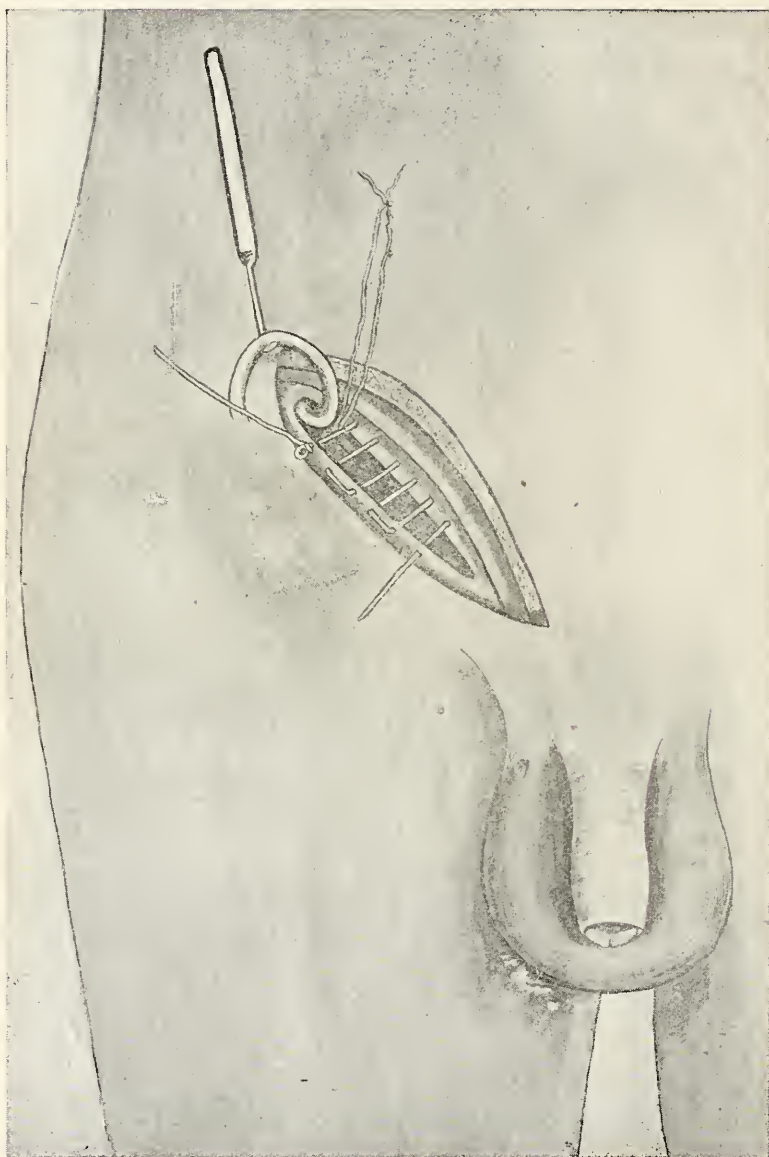


Fig. 6. Inguinal hernia. Basting suture uniting Poupart's Ligament to the conjoined tendon

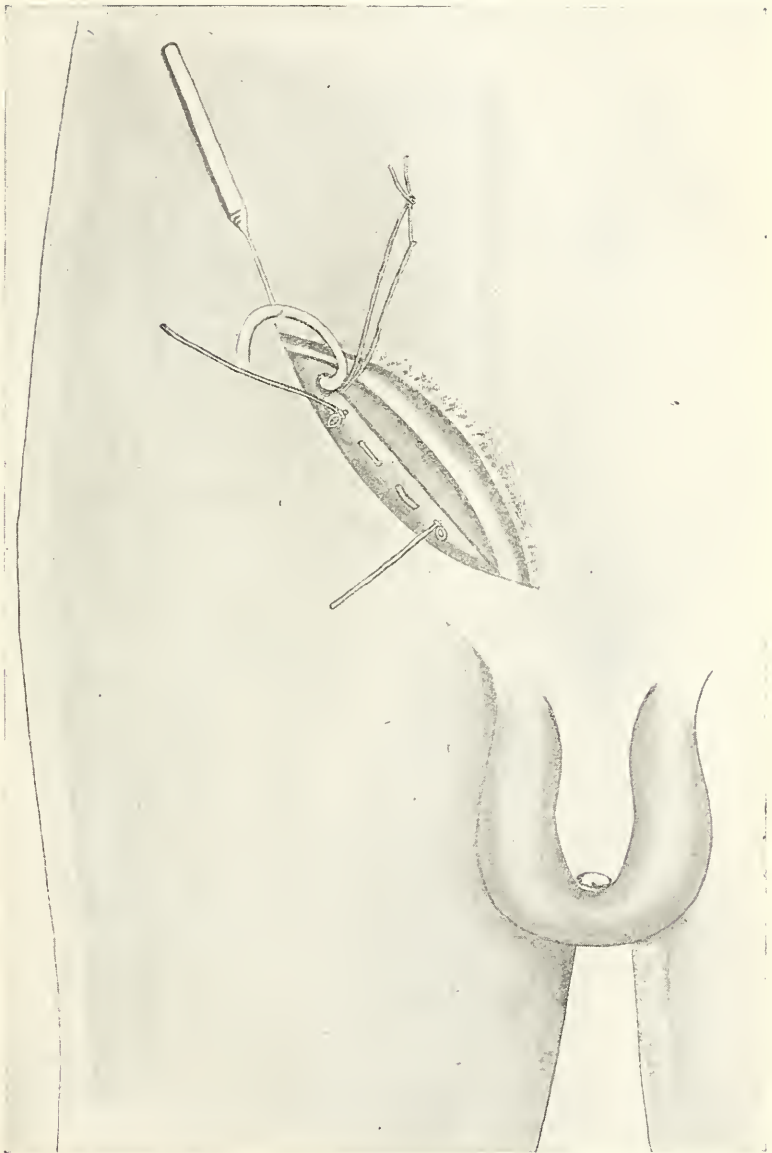


Fig. 7. Inguinal hernia. Basting suture tied.



Fig. 8. Inguinal hernia. Suture of fascia of external oblique muscle to Poupart's ligaments over the cord by continuous herring-bone suture.

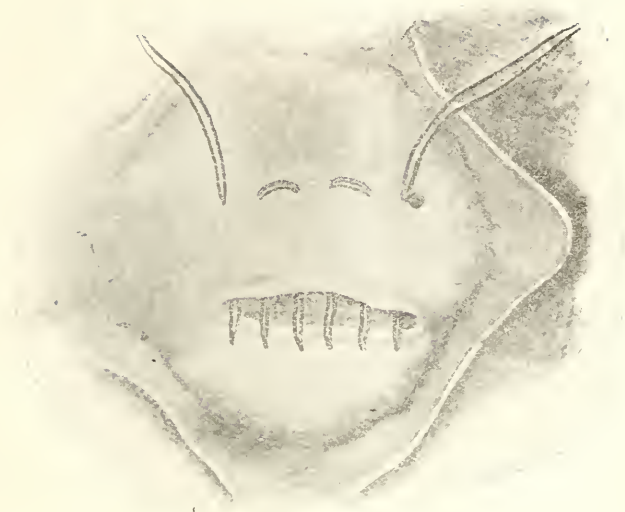


Fig. 9. Umbilical hernia. 1st suture in position.

tinuous herring-bone stitch of silkworm gut, the loose ends projecting from the angles of the wound, without being tied. (Fig. 8.)

The superficial layer is closed by the subcuticular suture of silkworm-gut. (Fig. 4.)

UMBILICAL, VENTRAL, AND FEMORAL HERNIA.

Umbilical hernia is repaired by the Mayo method modified by the continuous basting stitch, tied at either end on the fascia. (Figs. 8, 10.)

The skin is sutured in the same direction to facilitate removal of the deep sutures.

Post-operative ventral hernia is repaired by overlapping the edges of the fascia by the tied basting-stitch. (Fig. 11.)

Femoral hernia is closed by the Cushing pursestring operation, modified by the use of a removable silkworm-gut suture, secured by the bow-knots. (Fig. 12.)

This is reinforced by a similar purse-string suture,

attaching the falciform process to the pubic portion of the fascia lata.

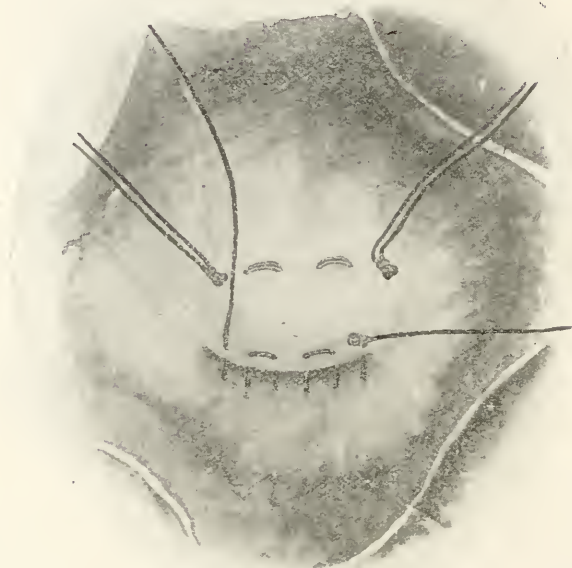


Fig. 10. Umbilical hernia. 1st suture tied. 2nd suture in position.

MATERIAL.

1. *Sutures*.—Very heavy strands of Spanish silkworm gut, perfectly smooth and round, thirtyfive centimeters long, are selected.

Different colors—white, red (carbol-fuchsine), black (iron-dyed), and blue (methyline blue)—are used for identification during removal of the stitches.

2. *Needles*.—Small Ferguson needles are used in the skin.

Small curved needles are used in the peritoneum and the fascia—round and slender, so that the perforation in the fascia shall be small enough to obstruct the passage of the bow-knot. They are made by taking an oblong-eyed cambric-needle, three centimeters long, annealing it, spread-

ing the eye until it will take the large strands of silkworm gut, bending it to one-quarter curve, and then retempering the needle.

3. *Dressings*—The ends of the sutures which protrude from each angle of the wound, and form capillary drains from each layer, are wrapped in gauze sponges to protect the skin from irritation by them.

A firm mass of aseptic hydroscopic gauze is applied over the wound.

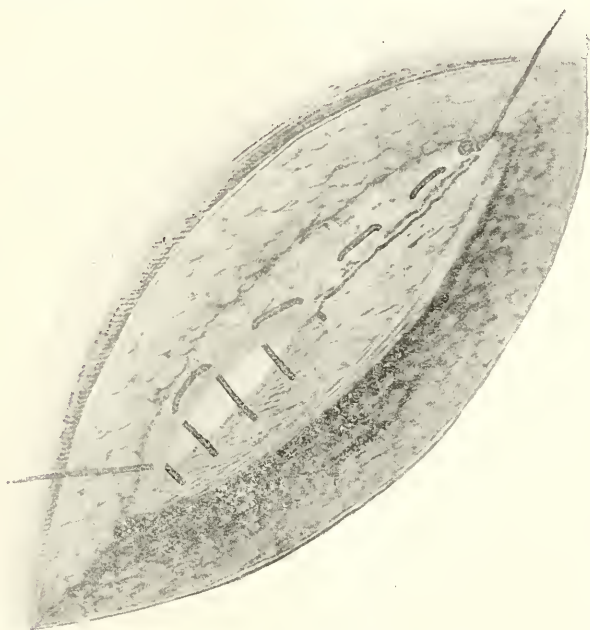


Fig. 11. Postoperative ventral hernia. Basting suture in position.

The dressings are held in position by four strips of adhesive plaster tightly drawn across the gauze; the upper and lower strips covering the edges of the gauze. This prevents the patient meddling with the wound, and tends to immobilize the abdominal wall, and gives the wound rest.

4. *Removal of Sutures*.—The sutures are removed in from seven to twelve days.

The surfaces are cleansed with 1-2000 bichloride solution.

The patient's head and shoulders are raised by pillows; the legs and thighs are flexed. This relaxes the abdominal muscles so that the patient cannot hold the abdominal wall rigid and tense, and hinder the extraction of the suture.

The peritoneal suture is taken out first and the skin-suture last.

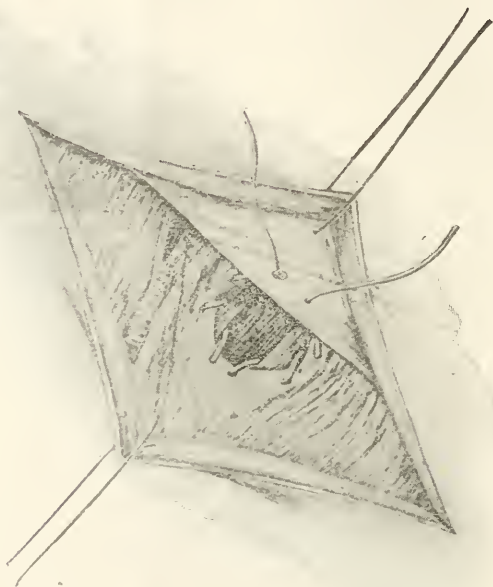


Fig. 12. Femoral hernia.

When the suture that is tied in the fascia is to be removed, it is recognized by its color, a gauze sponge is wrapped around one end to protect it from being broken by the forceps, which are then snapped upon the extreme end, and rolled like a windlass up to the skin. The hand grasps the forceps like a corkscrew, with index and middle fingers astride the suture. In this position traction is made until the knot is felt to untie, then this end of the suture is cut three centimeters from the skin.

A sponge and forceps are applied and rolled on the other end in the same manner.

This is applied without reference to the bow-knot on that end, and is continued steadily until the suture is out. Steady, continued traction is required. Intermittent, irregular traction tends to wedge and break the silkworm gut,

If the tissue puckers and the suture does not extract easily, it is let alone for a few days, when it can be readily removed.

If, because of a faulty strand of silkworm gut or because of accidental back-stitching, the suture break, traction on the first end, which was left three centimeters long, will remove the other fragment.

The other sutures are removed in the same manner, with the exception of the untying of the first bow-knot.

[Reprint from Surgery, Gynecology and Obstetrics.]

Y. M. C. A. NOTES.

The annual meeting was held the last Tuesday in February. The reports of the officers were very economizing and showed a steady progress in our growth: The new officers are: President, Miss B. Nilsson '07; Vice President, Miss M. Freitag '08; Secretary, Miss Lulu Lee '08; Treasurer, Miss Cora I. Kipp.

The monthly vesper services for February were led by Dr. Sara Jonson. Our hostess was Dr. Henrietta Gould.

Miss Nilsson, who was our delegate to the Students Volunteer Convention at Nashville reports that the meeting was most inspiring, and has returned with great enthusiasm over the work, and a lasting impression of southern hospitality.

TUBERCULOSIS OF THE CERVICAL LYMPH-NODES.¹

BY DANIEL N. EISENDRATH, A. B., M. D., Chicago.

Adj. Professor of Surgery, College of Physicians and Surgeons,
Attending Surgeon Cook County Hospital; Interne
Cook County, 1892.

Reprint from *Surgery, Gynecology and Obstetrics*.

Although this subject would seem at first glance to be one with which every surgeon is thoroughly familiar. I feel that the progress made even in this subject during the past decade would warrant one in discussing it at the present time.

Our knowledge of the etiology, diagnosis, and treatment of the condition has advanced so much that I will consider it chiefly from these standpoints.

ETIOLOGY

It has been known in a more or less empirical manner for many years that the tonsils were the most frequent portal of infection in tuberculosis of the cervical lymph-nodes. The more exact researches of recent times have demonstrated this beyond a doubt. In ten per cent of a large number of tonsils and adenoids removed during life, evidences of tuberculosis has been found. The majority of these examinations were tonsils and adenoids removed from children. If one considers that in many of these cases the tubercular lesion might have been healed at the time of operation, the percentage of cases in which tuberculosis was found is smaller than is actually the case.

Whether these foci are primary or secondary it is impossible to say during life, but it would be fair to assume that they are primary in many cases.

The best manner in which to explain the frequent involvement of the lymphoid tissue of the tonsils and pharynx, with transmission of the infection to the cervical lymph-nodes, is that young children inhale the dust which contains

1. Read at the 1905 meeting of the Western Surgical and Gynecological Association.

the bacilli in crawling about on the floor, and that they lodge in the tonsils. The organisms may remain latent in the cervical lymph-nodes for years and then suddenly start up actively.

Those who are interested will find an excellent review of the literature of the portals of infection in cervical lymph-node tuberculosis in the articles of Lartigau and Nicoll,² of Koplik,³ and of Kingsford.⁴

This condition of tonsillar tuberculosis is, of course, most frequent in children, but may exist in adult life.

If I were to enumerate the various portals of entry according to their frequency, in tuberculosis of the cervical lymph-nodes (Fig. 1), I should say:

1. The faucial tonsils.
2. The pharyngeal tonsils or adenoids.
3. A tuberculosis of the temporal bone, with resultant otitis media.
4. Through carious teeth.
5. Tubercular lesions of the buccal and nasal mucous membranes.

Of these, the last named is so rare that it may be left out of consideration. The third is so self evident that its recognition clinically is easy. The fourth (carious teeth) form the atrium in a small proportion of cases.

I believe that we are most apt to overlook the importance of the first and second (tonsils and adenoids) of these atria in our treatment of tuberculous cervical lymph-nodes.

We can do much to prevent such a secondary condition, through the enforcement of the same principles as are applied in the prevention of pulmonary tuberculosis. These are referred to under the head of Treatment.

George B. Wood⁵ has recently confirmed some of the above views by injecting colored fluid into the faucial tonsil. He found that it passed through the peritonsillar lymphatics

2. American Jour. of Med. Sciences, vol. cxixiii, p. 1031.

3. American Jour. of Med. Sciences, vol. cxixvii, p. 361.

4. Lancet, vol. i, 1904.

5. American Jour. of Med. Sciences, Aug., 1905.

into a node which he terms the tonsillar (one of the deep cervical group) situated in the angle between the internal and anterior jugular veins. (Fig. 1).

Personally, I have made it a practice to have every case examined, if possible, before operation, by a specialist, as to the existence of diseased faucial tonsils complicated, or not, by the presence of adenoids.

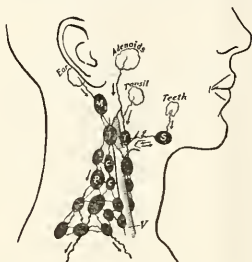


Fig. 1

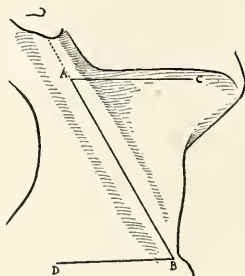


Fig. 2

Fig. 1. Portals of infection and the most frequent nodes involved in tuberculosis of the cervical lymph-nodes. The arrows show the direction of the efferent lymph-vessels leading from the various portals of infection toward the respective nodes which are first infected. *M*. Uppermost node of internal jugular vein which receives the infective material from the ear. *T*. Tonsillar gland located in angle of internal jugular and anterior jugular. This receives the lymph from the tonsil. From *J* downward are to be seen the principal lymph-nodes of the neck which receive the lymph from the head and face. These are the internal jugular group lying beneath the sternocleidomastoid muscle, in close relation to the internal jugular vein *V*. and in direct connection with the lymph-nodes of the posterior triangle of the neck, *P*. *S*. Submaxillary nodes. These lie either upon or within the capsule of the submaxillary salivary gland, and receive the infective material from the teeth and jaws, but, in the author's opinion, may be infected by retrograde currents from the tonsillar lymph-nodes. *C*. Two nodes are shown with their short venous branch leading into the internal jugular. Attention is called in the text to this condition, under Operative Technique.

Fig. 2. Incisions employed in the extirpation of tubercular cervical lymph-nodes. The typical incision is from *A* to *B*, over the middle of the sternocleidomastoid. If it become necessary to make an extensive dissection of the submaxillary region, the incision extends from *A* to *C*. If a large exposure of the supraclavicular region be necessary, the incision is extended in the direction *B* *D*.

It may be of interest to relate an instructive experience

in this connection. I operated upon a boy of ten for tubercular cervical nodes, without paying any attention to the condition of the upper respiratory tract. At the time of the first operation I considered that I had been very thorough in removing every palpable node with the surrounding fat. (I shall refer later to the importance of removing this fatty tissue).

He returned one year later with almost as many enlarged nodes as at the time of the first operation. I advised and performed a second extirpation, combined with the removal of adenoids and enlarged tonsils. No recurrence has taken place up to the present time, about five years after the second operation.

I do not believe that sufficient attention has been paid to removing these primary atria, and at the present time do not consider an operation thorough, especially in children, without such an examination of the nose and throat. The removal of the tonsils and adenoids is now combined with the extirpation of the lymph-nodes as a more or less routine measure.

DIAGNOSIS.

Our notion of tubercular enlargements of lymph-nodes has generally been that they occur in a chronic form only, and that the entire course of the disease was one which extended over a period of months to years. There seems to be no question that there are cases which run a very acute course, so that caseation occurs within two to three weeks after the onset of the disease. The following case illustrates this point:

During the past two or three winters we have had an epidemic, in Chicago, of acute enlargement of the cervical lymph-nodes on both sides of the neck, accompanied by rise of temperature and local inflammatory signs. In some of the cases the temperature would be persistently high, varying between 101-104° for a period of two to three weeks, so that one was often in doubt as to the possibility of suppuration having occurred. The majority of these cases are, no doubt, the result of an influenzal inflammation of the lymph-

nodes; a disease which was described in 1899 by Pfeiffer as a complication of influenza, and called Pfeiffer's disease or glandular fever.



Fig. 3.

long the internal jugular. This case had begun acutely, unlike a tubercular form, with a temperature of 102° , and all of the signs of the ordinary Pfeiffer fever.

Fig. 3. Distribution of enlarged lymph-nodes in the case of pseudoleukemic form of tubercular lymph-nodes. (See text).

Fig. 4. The relation of tubercular glands of the neck to the sternocleidomastoid muscle. 1. Several large glands, which are fused together, lying in front of the muscle, extending as far forward as the angle of the jaw. The black area at the lower level of this mass indicates a sinus covered with tuberculous granulation tissue. 2. A similar mass situated in the upper portion of the posterior cervical or occipital triangle, between the upper ends of the sternocleidomastoid and trapezius muscles. The sternocleidomastoid muscle usually lies superficial to such glandular masses, the latter being adherent to the deep vessels. 3. Mass of glands at lower portion of posterior cervical triangle (subclavian triangle). The black area at the center of this mass is a sinus similar to the one in relation to the other glands. 4. Outlines of sternocleidomastoid muscle.

Fig. 5. Drooping of right side of neck as a result of paralysis of the trapezius muscle, following severing of the spinal accessory nerve.

□ During the past and present winters I have had occasion to see a large number of these cases in consultation, and two of them have interested me greatly. In one, a schoolboy of fifteen had an acute bilateral enlargement, involving many of the internal jugular nodes. One of them showed distinct fluctuation about five weeks after the onset of the disease. I evacuated typical cheesy pus. A radical extirpation of the nodes was undertaken, and revealed the presence of a very extensive involvement of many nodes a.



Fig. 5.



Fig. 4.

I saw a second case in a lady of thirty, with caseation of the glands in three weeks. In neither of the cases was there any history of previous tubercular disease in the patients themselves, or in the family. The glands were from the first much harder than in Pfeiffer's disease.

There is another condition which must be considered in the differential diagnosis.

These are cases to which Fischer has called attention, and termed the pseudoleukemic form of tubercular lymph-nodes. There is not only an enlargement of the cervical nodes, but of the axillary and inguinal as well. The enlargement takes place gradually, and there is no tendency to softening, as in ordinary tuberculous nodes, or to the formation of adhesions between the adjacent ones.

The entire clinical picture resembles greatly that of Hodgkin's disease, but differs from it in the fact that the enlargement of the nodes is not as progressive as in pseudoleukemia, and rarely reaches the enormous size of the latter, nor is there any involvement of the mediastinal nodes

Fig. 3, illustrates this variety of enlargement, whose exact nature is not quite clear. In one of these patients a number of typical tubercular nodes were extirpated on the left side of the neck, three years ago. About one year after the wound had been healed, the patient presented himself on account of a recurrent enlargement of the nodes on both sides of the neck and in the axillæ. The examination showed a condition which it was practically impossible to differentiate from an incipient Hodgkin's disease, and if it had not been for the absolutely reliable history obtained, it would have been impossible to make a diagnosis.

In the second case the enlargement of the lymph-nodes was very marked on both sides of the neck and in the axillæ, as well as in the inguinal region. In this case, three years before Dr. A. E. Halstead had removed a large number of typical tubercular nodes. There has been no tendency to breaking down, and under the influence of the X-ray a very marked improvement has occurred.

I have referred to these acute and pseudoleukemic forms in order that further observations may be made. I need mention only briefly the other forms of lymph-node enlargements from which the tubercular must be differentiated. They are the true Hodgkin's or pseudoleukemic, the syphilitic, lymphatic leukemia, chronic non-tubercular hyperplastic nodes, lymphosarcoma, and secondary carcinomatous.

TREATMENT

Prophylactic.—We can accomplish much by educating the masses in the knowledge of the general principles of hygiene. Those suffering from pulmonary tuberculosis must be cautioned not to expectorate on floors or public conveyances, since the pulverized sputum is often first arrested in the tonsils and other lymphoid tissue of children and young adults. Both poor and rich must be taught the necessity of cleanliness in the modern sense of the word. A free circulation of air in living, and especially in sleeping, apartments will do much to keep the tonsillar ring in a good eliminating condition. I am firmly of the opinion that we can accomplish good through early and radical removal of

diseased tonsils, and of adenoids when found, since these are the most frequent atria of infection.

Non-operative Treatment.—If an operation is deemed inadvisable or is objected to, the ideal treatment is to send the patients to the mountains or to the seashore. If it is found impossible to follow such a plan, the use of tonics—cod-liver oil, guaiacol, iodide of iron—is of aid, provided that the process is not a very active one. If the latter exists, no medical treatment will be of much avail. I do not believe that the external use of iodine is of any benefit. In regard to the X-ray, I am frank in saying that my experience does not warrant an expression of opinion.

Operative Treatment.—A study of the statistics of various authors will convince one that a thorough and radical extirpation of every enlarged tuberculous node will not only give the best prospect of immediate immunity, but also of freedom of development of foci in the lungs, bones, peritoneum, kidney and testis at some period in the future.

What do statistics of operative interference show?

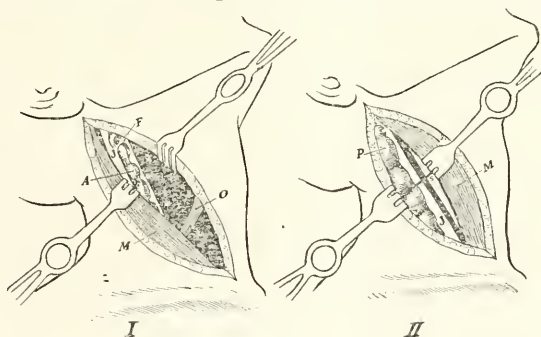


Fig. .

Fig. 6. I. Exposure of internal jugular lymph-nodes *A*, in upper half of neck, by retraction of the sternocleidomastoid muscle; *M* upwards. *F*. Anterior jugular vein. *J*. Internal jugular vein. The lymph-nodes are shown attached both to the carotid artery (shown in white) and to the internal jugular vein. *O*. Omohyoid muscle. II. Exposure of lymph-nodes in posterior triangle by retraction of sternocleidomastoid muscle (*M*) forwards. *S*. This latter is placed just below the point of emergence of the spinal accessory nerve from the middle of the muscle. *J*. Internal

jugular vein, to which a large number of lymph-nodes are shown adherent.

In 745 cases collected by Bloss from eleven sources, over 54 per cent showed permanent recovery. Six years was regarded as ample time after operation to be considered a permanent result. Of 140 cases collected by Jordan, 20 showed involvement of the lung before operation, and at a later examination 16 of these were well and free from pulmonary disease. Of the 58 cases (out of a total of 143 operated) collected by Mitchell, 45, or 77.6 per cent were well, with no local or other recurrence, and with negative lungs, after periods varying from one to thirteen years.

I agree with the opinion of Dowd,¹ that if the nodes are thoroughly extirpated there is no recurrence in 75 per cent of the cases, and ultimate recovery in 90 per cent. Both of these can be even increased by the systematic removal of the tonsils and adenoids at the time of the lymph-node extirpation.

Method of Extirpation.—I will describe briefly the method uniformly employed in 50 cases. If tonsils or adenoids are to be removed, this operation is performed after the extirpation of the nodes, in order not to infect the field of operation.

The patient lies flat upon his or her back, the shoulders are raised by a small sandbag so that the head falls back. The chin is turned to the side opposite to that upon which the incision is to be made.

Of all the different forms of incision, I prefer the one shown in Fig. 2, if a large number of nodes are to be extirpated. I have never found that the transverse incision, as recommended by Dowd, gave the exposure of the deeper structures which a longitudinal one does. The latter is made over the middle of the sternocleidomastoid, and can be extended at its upper and lower ends in an anterior and posterior direction to remove nodes in the submaxillary and supraclavicular regions respectively.

If sinuses exist (Fig. 4), their walls are curetted and

1. *Annals of Surgery*, July, 1905.

the skin edges extirpated. If a large abscess is present, I prefer to open it under Schleich anæsthesia a few days to a week before the radical extirpation, in order to avoid an infection of the entire operative field with tubercle bacilli. The radical operation begins with the above longitudinal incision carried through the skin and deep fascia until the anterior border of the sternomastoid muscle is exposed. This is always the first landmark, and by adhering to the routine of following the anterior and posterior borders of this muscle much time will be gained in getting one's bearings, so to speak, as to the relation of the enlarged nodes to the principal vessels and nerves.

The deep cervical fascia is thoroughly divided with a scalpel and the sternomastoid muscle freed along both of its borders. Great care is taken to catch every bleeding-point at once. The majority of the superficial and many of the deeper vessels require no ligature, the exception being the external jugular vein, which it is impossible to avoid severing. When the edges of the wound are all retracted, the extirpation proper is begun by either catching the node with an artery forceps, or, better still, with a sharp pointed, short-tined retractor, and the node drawn toward the surface. I have found a blunt-pointed, short-bladed, curved scissors far better than a Kocher dissector. One can work the node loose from its adherent surrounding tissue, and at the same time cut toward the capsule in separating these adhesions, without constantly changing instruments. I never employ a scalpel after the sternomastoid borders have been exposed. If the nodes are adherant to the internal or anterior jugular or to the carotid, no accident ought ever to happen if the above-described combined traction, blunt dissection, and an occasional cut of the capsule are employed. I have repeatedly exposed the internal jugular from chin to clavicle without ever having injured it. It is of great importance not to pull a node away from the jugular and then to cut between. If one does, the jugular, being very elastic, is pulled out, and easily. (?) By inserting the blunt scissors between the vein and the node, the latter can be easily stripped from the vein wall.

One will encounter some obstinate bleeding from arteries and veins which supply the nodes themselves. Leaf has called attention to a condition I have myself occasionally encountered. A node which is adherant to the internal jugular will have a short, wide vein emptying directly into the jugular. It is impossible to avoid cutting this communication, and the hemorrhage may be so severe as to cause one to think that the main vessel has been cut. If this branch is too short to be ligated, it is best to transfix the wall of the jugular with a non-cutting needle armed with catgut, and thus by applying a parietal ligature check the hemorrhage.

The upper set of deep cervical nodes are best extirpated by pulling the muscle backwards (Fig. 6.), and the lower, including those laying in the posterior triangle of the neck, by pulling the muscle forwards. (Fig. 6.)

The position of the spinal accessory nerve must always be born in mind. It emerges from the sternomastoid at its middle, and passes almost transversely across the posterior triangle to enter the trapezius. It is often imbedded in the midst of enlarged nodes, and easily severed in enucleating them at this point.

I have often identified it by pinching it lightly with an artery-forceps, and then watched the trapezius muscle contract. When severed, the patient is unable to raise the injured shoulder (Fig. 5) as high as the normal, but this can be compensated for in course of time.

On the left side one must bear in mind the position of the thoracic duct. I cut this recently in one case, which had been previously operated upon by another surgeon so that extensive cicatricial tissue existed. At the first dressing a considerable amount of thin, milky fluid escaped, but by packing the wound firmly this ceased within a week. This treatment is usually effective, suture being seldom required.

In the majority of cases of injury of the thoracic duct so far reported, only one of the main branches has been wounded, so that packing the wound tightly usually suffices. A thorough removal of all fat will be of great aid in preventing recurrence.

THE PLEXUS

COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT

UNIVERSITY OF ILLINOIS.

CHICAGO.

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Dr. and Mrs. D. A. K. Steele and Dr. and Mrs. W. M. Harsha spent a short vacation in New Orleans attending the Mardi Gras festivities.

Dr. W. E. Hart, '03, Lanesboro, Iowa, was recently elected president of the Carroll County, Iowa, Medical Society for the ensuing year.

Dr. W. H. Miller, '93, Chadwick, Ill., died of pneumonia January 24th, after one week's illness. The classmates of Dr. Miller will be deeply grieved to learn of his untimely death.

Dr. Charles Nelson Ballard announces the removal of his residence to 1396 Washington Boulevard.

CLASS PROPHECY.

Shortly after he returned, and from the broad smile on his face and the twinkle in his eye, I knew something must be doing. Immediately he informed me that parties had called to be united in the holy bonds of matrimony and asked me to go to the parlor with him as he was quite sure I would be interested. I certainly was in more ways than one, for the parties waiting there proved to be Frank Clair Kennelly and his bride to be. The groom in particular showed signs of nervousness by the twisting of his mustache and the incessant tapping of one foot upon the floor. If I had had the right kind of a license I certainly should have "budded in."

After the knot was tied and the two hearts beat as one, I offered congratulations. I did not attempt to push any inquiries but simply learned that he was traveling for a wholesale drug store whose employ he had been in for seven years.

After sight-seeing for three days I left the City of Brotherly Love and boarded the train for Baltimore. One evening while there I listened to a campaign speech by a much noted speaker, Elias Homer Loofbourrow. He stepped forth boldly on the platform and began to bellow forth like an infuriated lion, pacing back and forth across the stage and throwing his arms like a mad man. In going through all this agony and getting into such a ridiculous attitude, he was simply putting forth the platform of the democratic party. He was a ready talker, however, and had on hand a good supply of anecdotes, many of which were more than up to date. In gazing around the crowd, as one naturally does, I recognized the faces of J. W. Parsons, M. H. Rice and E. J. Ford, but was unable to speak with them.

The next day I departed for the Capitol City. There was to be a swell social ball given in the evening and I determined to attend if possible as a spectator. The scene which I beheld as I entered the massive hall was one of dazzling beauty. My attention was attracted by a "state

little lady," who seemed to be a leader of the beautifully dressed women. Something prompted me to ask "who is that woman?" I received the reply: "Why, that is Dr. Katherine Stull, our ear and eye specialist, and the swellest lady in the city."

The capitol was the greatest place of attraction for me the next day, and as congress was to adjourn in a day or two I set about to make the most of my time. After wandering around through the corridors and admiring the interior beauty of the building, I wended my way to the senate chamber. A lobby man directed me to the balcony where I spent an hour or more watching the moving, restless members below. I had thus been passing the time when the president brought the gavel down upon the table like the sound of thunder and said that Mr. Nebeker has the floor. For a few moments I was unable to associate the name with the person I had known, but later recognized him, and by inquiry learned that he was Senator from Missouri. I returned to the hotel and there found awaiting my return E. F. Nebecker who had learned I was in the city.

I learned through Mr. Nebecker that Miss Alma Anderson is still single, and is a deaconess in the deaf and dumb asylum at Delevan, Wis., where she can do all the talking and have her own way, and she never tires of telling the inmates of what might have been if the little word "if" had not been in the way. In her room hangs a young cadet's hat captured while in Champaign attending the inauguration of Pres. James. The capture was not without loss for in the conflict she lost her own colors, the P. and S. pennant.

Mr. and Mrs. J. Z. Nathanson have charge of the St. Helena Sanitarium, sixty-five miles from San Francisco, situated on an elevation overlooking the beautiful Napa Valley, surrounded by natural groves, lawns and semi-tropical gardens, an ideal place for convalescent patients.

Geo. W. Ross, "The Hold-up Man," has won himself a great name in the halls of congress on account of his oratorical powers and ability as a statesman, for it was through

his untiring efforts that the law "Prohibiting the Manufacture and Sale of all Patent Medicines" was passed.

How Ross came to get the name of "hold-up man" very few know, but it seems he was crossing a vacant square out in the suburb of the city late one night, after having spent a most enjoyable evening with his lady friend, when he was aroused from his pleasant reflections by the sudden appearance of a "blue coat" who demanded "who he was and what he was doing there at that hour of the night?" Being recalled from the sublime to the serious so suddenly he was naturally somewhat excited, so the cop took him in charge, but by the time he had reached the station his ideas had become more clear, and he was able to explain his position and was let off with the advice to keep earlier hours or stay until morning. Did it pay? You just ask him.

SENIOR NOTES.

Verily the life of the senior is one of mind-wrecking anxiety and continual mental agony. The scare in obstetrics being well over and our fears dispersed, or which we are sorry to note in a few instances realized, we were again precipitated into a terrible suspense pending the issue of the first semester reports in medicine. To our mind, one who has not been a senior and gone through the same ordeal must necessarily have a very inadequate conception of the diabolical, gnawing, irritating uneasiness of the soul that the situation carries with it. The heart-rending scenes enacted by some members of the class upon receipt of those despicable and offensive bits of paper from the office, we shall in order not to recall unpleasant memories, pass by with the mention only. However, sad as all this is, you would readily agree with me that it had its humorous features, if you had witnessed the manner in which some seniors approached the attendant in the office asking for their mail. Pardon us Stevenson, but you furnished as fair example as any. According to his own confession he was so scared that the whole of his tiny frame was trembling at the rate of

about 25 times to the second, the filling in his teeth being shaken out. And then when informed there was no flunk sheet for him he seemed disappointed.

It may be presuming on Junior territory, but we cannot refrain from noting the instructive obstetrical clinic conducted by Dr. Van Hoosen, March 10th in 406. The opportunity of seeing a Caesarian section performed does by no means fall to the lot of every student during his college years even in Chicago, so we were doubly lucky in having the good fortune of witnessing the operation. We are only sorry that every senior was not there.

To any one who is not a member of Newells section in medicine, any description on our part as to how he appears to us when he points his index finger at the quiz-master and says, "I tell you," would not convey an adequate idea. Would somebody prevail upon him to pose for a picture in his reciting position for the next issue of the PLEXUS?

When it comes to taking pictures the young ladies of our class are no different from their non-medical sisters. The first sitting is a rank failure, the second more so and the third no better, but that is the one they will decide in favor of when ordering.

Without mentioning any names we saw a young lady the other day in one of the lectures nodding and seeming much inclined to sleep. If you ever notice that sleepy feeling come over you again, we would advise that you draw nigh unto Wynekoop; his silvery prattle should dispel the most severe grade of somnolence.

There are 13 Seniors taking the County Hospital examination. Such an erudite body as the quiz-class would not, of course, attach any significance to this number which for ages has been considered an unlucky one, but if after all it carries an omen of evil we hope that the disaster may befall the competitors of the quiz-class from our college.

JUNIOR NOTES.

Wollinski is making progress in Neurology, He wants to know the location of Turck's column in the internal capsule.

Dr. Ballenger, quizzing in Rhinology without a roll:

"Mr. Brown"—(no answer.)

"Mr. Jones"—(no answer.)

"Mr. Smith"—Smith "here."

Dr. Ballenger—There, I knew I would get somebody if I called Smith.

Wood says the oblique diameter of the plexus is 26 cubic centimeters. Dr. Yarros says it is no use to teach him obstetrics.

Dr. Witherspoon, professor of surgery of the Junior faculty, has left us, having gone to undertake the practice of surgery in Texas. While the Junior class is very sorry to have lost so efficient an instructor we earnestly wish him the best of success in his new field.

The junior class was recently treated to the rare opportunity of witnessing a Caesarian section performed by Dr. Van Hoosen, our progressive gynecologist and surgeon. In excellence and rapidity of technique the operation stands as a record breaker in the annals of P. & S. Within exactly six minutes from the time Dr. Van Hoosen took her scalpel in hand the child, a nine-pound boy, was removed from the uterus alive. Latest reports inform us that both mother and child are doing nicely. A large number of students, members of the faculty and local physicians witnessed the operation. Dr. Van Hoosen performed the same operation at P. & S. five years ago and succeeded in bringing the child into the world alive, but the case resulted unfortunately in the death of the mother.

Apropos of the event it may be added that two Freshmen and one Sophomore in the audience fainted away, the latter narrowly escaping injury from falling down the stairway of the amphitheatre. We would suggest that Freshmen and Sophomores had best wait until their tender na-

tures become more hardened before attempting to witness major surgical operations.

The following humorous incident occurred during the operation: As Dr. Van Hoosen ruptured the foetal membranes and the amniotic fluid gushed out, a lady in the audience (presumably a Senior) exclaimed, "Oh, my! she has ruptured the urinary bladder." We hope Dr. Van Hoosen was not offended by this reflection on her surgical skill.

Dr. Shaw says he now understands the incident concerning Ettelson in clinical anatomy mentioned in the February issue of the PLEXUS. At present Dr. Shaw and Ettelson are getting on famously.

Dr. King to a communicative student in neurology class:—"Excuse me Mr. Wassom but did you wish to give me the pathology of Bell's Palsy?"

Who says "What else?"

Who is it precedes his recitations with an introductory "well?"

Dr. King in referring to the student who whistled during the neurology lecture, says he does not understand the psychology of the same; that he does not know what could have been in the student's mind, but suspects there was nothing.

Wakefield says to go into the abdomen a little north of the rectus muscle to repair a typhoid ulcer.

Toeller says inhalations of chlorinated lime are good for laryngitis.

SOPHOMORE NOTES.

Phifer has been seen regularly wending his way toward Leavitt Street with theatre tickets, violets, candy and a smile that would make a Roosevelt look cheap. It must be a serious affair. Congratulations Prep.

The Sophomores wonder whether Schiffbauer & Krause

advocate the water cure as a stimulous to the after effects of a nervous anatomy lecture.

Hutchinsons knowledge seems to be in such excess that although he cannot expound it in words, nevertheless, he makes known his knowledge by his bobbing red head.

We have just been informed that two of our class-mates have betaken upon themselves a wife. Schussler and Spencer.

It is understood that Chas. Skwor, Sr., came purposely to the college to get his son Charlie out of a serious difficulty. It has developed that Charlie is being sued for a breach of promise by a Wisconsin damsel whom he met while at normal school.

Berger fully realizes the difference between a Physiological laboratory and a clinical amphitheatre.

We have wondered why Cavanor has been so serious of late but then we suppose it is the same old story of love at first sight.

Geo. W. Ascott died of Uremic poisoning early Monday morning March 4th, after an illness of five days. The class adopted the following resolutions.

WHEREAS, Death has removed from our midst one of our most diligent, sincere and conscientious fellow students, George W. Ascott, and

WHEREAS, We, his class-mates, do feel most keenly for his widow and relatives,

Be it resolved, That we, the members of the class of 1908 of the College of Physicians and Surgeons of the University of Illinois do hereby take this means of expressing our sorrow, and extending our heart-felt sympathy to his widow and relatives in this their sad hour of bereavement. Furthermore

Be it resolved, That an engrossed copy of these resolu-

tions be presented to his widow and a copy of them be given to the editor of the PLEXUS for publication.

E. R. HAYHURST	} Committee.
J. M. BERGER	
A. HARTING	

ESSAY ON ANIMALS WHICH ARE USED FOR FOOD.

BY FRANK MCGUINN, 1909.

With the mention of food comes that oft repeated feeling, embarrassing at times though it may be, yet not to be regreted by all, as one of the keenest pleasures in this sad vale of tears is the satisfied feeling which follows the partaking of a good, square meal. Yet, how often we suffer from eating some of these foods, taught though we are in the P. & S. College that our bodies are sustained and nourished through the assimilation of ingredients which these contain, and I am inclined to think that as poor students our stomachs have not attained that proficiency acquired through long continued use of these delicacies which we hope to eat when we become M. D.'s.

Returning to our subject mentioned above, we have the animal kingdom divided into twelve uninteresting groups. Uninteresting, not from the standpoint of a stomach well filled, but from long and arduous study which has enabled me through exhaustless research to compile this essay. I may also state that I formed my conception that this was uninteresting from the distressed looking faces which my fellow students displayed when this subject was presented to us.

The animal kingdom, as stated before is composed of twelve groups, namely: Protozoa, Porifera, Coelenterata, Platyhelminthes, Nemathelminthes, Trochalminthes. Molloscouda, Echinodermata, Annulata, Mollusca, Arthropoda and Chordata.

The first nine are of no interest to us as far as our subject is concerned. We have first Phylum Arthropoda of

this class I. Crustacea which includes the Cray fish, Lobsters, Crabs and Shrimps. The fresh water Cray fish is one most common of the Arthropoda. It inhabitates the rivers in England and the continent of Europe. It is taken for granted that the Lobster is well known, so well indeed that it is the favorite expression employed by a great number of our lady friends in expressing their opinion of some kind-hearted youth, especially when they are conversing among themselves. The Crabs and Shrimps likewise are well known, as they are feasted upon by a vast number of people.

Other forms of Arthropoda, although they help to form a very interesting group, are of no importance to us as far as helping to sustain a healthy physique is concerned.

In the Mollusca we have another of those very interesting groups. They are differentiated from the Arthropoda by the absence of segmentation, and by the presence of an exoskeleton in the form of a shell. The first class of the Mollusca is Pelecypoda, including the shell fishes such as the Mussels, Cockles and Oysters. With the latter two most of us are familiar, as occasionally they play havoc in the abdominal region to such an extent that we are inevitably forced to partake of some of that delightful mixture, Castor Oil.

The Cephalopoda includes the Cuttle fish and Squids. The Cuttle fish are eaten by quite a number of people in the United States as well as other countries.

The last class of animals stands forth as the most interesting. It comprises all the Vertebrata animals, Fishes, Amphibians, Reptiles, Birds and Mammals.

There are two primary sub-divisions of Vertebrata. Div. I, Acrania, including little fishes like Lancelets. Div. II, Cranita, including Fishes, Amphibians, Reptiles, Birds and Mammals. Very few of the Acrania are eaten except perhaps by uncivilized people, and I don't think we envy them any.

The Cranita are divided into several classes and sub-classes. The first one which is of any interest to us is the Pisces. They include all the true fishes. This group is

Notes.

divided into three sub-classes, namely: Elasmobranchis, which include the Sharks and Rays. Holocephali, including the Cat fish and the Elephant fish; Teleostomi, including the bony fishes, such as Perch, Carp, Trout and Sturgeon. Of the first class the Sharks are feasted upon by the natives of the South Sea Island. In the second sub class the Cat fish is no doubt familiar to us all, especially to my Irish friends, for if by chance you should wander down that strip of land inhabited by some good old Irish families the odor of the Cat fish will be very predominant. In sub-class III we have Perch, Cod, Trout and the Sturgeon with which we are all very well acquainted, as one of our numerous pleasures was to sit upon the banks of the Amollæ river in Wisconsin and there await the "nibbling" at the hook. Class III of the Craniata is called the Amphibia. It includes the Frogs, Toads, Newts and Salamanders. The Frogs are quite familiar to us all, as in the still summer nights their harmonious voices can be heard for miles, reminding us very much of the Senior Glee Club awaiting the appearance of Dr. Quine.

In class IV of the Craniata we have Reptilia, which includes the Lizards, Snakes, Crocodiles, Turtles and Tortoises. Not any of these are of any use to the civilized people as far as food is concerned except the turtle. This, as most of my fellow students know, is employed quite extensively in making soup for Grand Saturday Night Openings. I am rather unfamiliar with this, however, but I think that some of the students of the P. & S. have on several occasions taken part in these great functions.

Class V or Aves, include the birds. These are divided into several different orders, many of which do not concern us. Order number nine, Anseres, however contributes very extensively to supplying us with food. It includes Ducks, Geese and other web-footed animals. Order number eleven, Galline, includes Fowls, Turkeys, Chickens and Game Birds. The Turkey and Chicken may be mentioned especially as they cause an unlimited amount of satisfaction when placed within reaching distance of us on the table.

The last class, or Mammals, are divided into several classes and sub-classes, but we will treat only of those which are embraced in this subject. We have sub-order 1., Artiodactyla, which includes Sheep and Pigs. The Rodentia, or order six, this includes the Rabbits and Hares.

There is a prevailing opinion among the majority of people that the dog contributes very extensively and liberally toward the production of food materials. This report is indefinite however, as the butchers are very reluctant about confirming it.

The subject, although diminutively dealt with, goes to show how extensive is the amount of food produced by animals.

Many of my fellow students, unacquainted though they are with the names of the ingredients which make up some of the concoctions placed before the public, have mostly all partaken of that dope whose origin is said to be across the balmy blue, but which is manufactured so extensively by our brown-faced, long-haired friends of South Clark street, and which contains food produced by animals unknown to us as well as Dr. Wynekoop, but enjoyed so immensely by so many as a midnight lunch, the so-called Chop Suey.

THE 1907 ILLIO.

To the new students and many others, some information regarding the University Annual, and what is being done on the next number, will doubtless be interesting. The Illio is the annual publication of the University of Illinois and is managed and edited by the Junior class, through a board which is selected by the close of the sophomore year. The first Illio was published in 1885 by the junior class. Previous to that year the annual had been called the Sophograph, and published by the sophomores, but for some reason the class of that year failed to get out its book, and in its junior year published an annual called the Illio. Since then tradition has kept up the custom.

The Illio furnishes a complete record of the University.

It has indicated the growth and development of the institution, year by year. As the attendance has increased and fraternities and clubs were established, as student activities have assumed larger proportions, so the Illio has been enlarged and improved. The rapid strides made by the University, can be directly traced in the improvement of the annuals. Each year has seen a marked improvement in the general make up of the book, and an increase in the circulation.

In order to be successful an annual, above any other publications, must receive the support of the student body and all University organizations. This support must be more than a mere passive interest in it, it must be active to the extent that a little effort may be put forth in its favor. This effort need not amount to more than the contribution of a single joke or roast, yet if put forth by every individual student the result will be gratifying.

The 1907 Illio will be published next May. The Board of Editors is making efforts to get out the best annual ever published at Illinois.

SCHOOL OF PHARMACY. OF THE UNIVERSITY OF ILLINOIS.

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SPRING FLOWERS SHOOT, THEY HAVE PISTILS.

F. M. GOODMAN.

As the school term approaches the end, it would almost appear that everyone was too fully occupied to give a moment's thought to the great changes which the near future has in store.

But midst the steady hum of the school machinery as we glance with pride upon the work accomplished, as the art weaver looks upon his tapestry as the last few strands of woof are being laid by the fast-flying shuttle, we find our fabric is also approaching completion and in a few days in the field and forest we will trim the warp ends of our botanical threads.

During the winter months we have been prying into nature's secrets, observing her handiwork and learning her ways and, now as spring approaches we find ourselves succumbing to a severe sthenic attack of vernal fever and feel that relief can only be bought by coming into still closer contact with the old dame. We know full well that she has many pleasant surprises in store for those still bent on seeking and we become anxious to roam the fields and see the

flowery and feathered harbingers, the sand dunes, the clay and gravel mounds with erratic boulders strewn here and there, the great kettle-hole which silently and eloquently tells the tale of a huge iceberg which rested and melted 50,000 years ago, the broad valley and moraine as carved by nature's irresistible tools, the granite rock and sandstone mass, each telling its own story, written on these open pages of the world's history. We cannot fail in realizing that in completing our botanical work we have simply viewed the first page of the great book; as we turn the leaf to enter upon the study of zoology, we find a new realm of learning and silently contemplate what each sentence represents in actual labor, the labor of love, bestowed by the most liberal of men; the searchers for truth, who after years of patient observation and comparison, give their all most freely to mankind.

On our spring excursion, the first thing that will attract our attention may possibly be a great silken cocoon tightly bound to a willow twig; it is the winter home of the cecropia or polyphemus moth; all winter long it has been exposed, apparently lifeless, to the chilling blast, to the shower and at times the snow has been piled high upon it, yet, upon removing the branch we soon find that the silky capsule contains a living creature. The guide tells us of the laying of the egg upon some solanaceous plant or elsewhere, its development into the second stage when it became a monster green caterpillar, how the caterpillar spun its insulated home of nonconducting silk to keep out currents of all kinds, the change of the larva to the pupa or winter stage and how in a few weeks time this symbol of immortality will pass into its next and most highly developed stage, the imago or giant moth, when it will again enter upon a new cycle, just as seed renew the plant, and we may have pointed out to us the close analogy in the stages of the development of the cell in the ovule, the ovary, seed, the process of germination or change, plant development and the succeeding productions of seed completing the cyclic round of plant life, with that of the animal.

In our advancement we perceive that all nature is awakening, here is a lazy little frog taking a sunbath and just beyond is a cray-fish on a tour of inspection. We ramble along still searching for the first flower of spring and are guessing as to whether it will be an hepatica, dandelion, violet or shepherd's purse, but we lose all hope as one slips on an icy mass hidden away in the forest shade; surely no plant could brave such a cold reception as this, but upon emerging from the woods we are impressed by the warmth of the glowing sun and soon find the result of his ardent wooing in a little golden buttercup, then a spring beauty comes into view and in a moment we are considering the influence of light and temperature on the range of plants, Next, we see plants of various forms growing in swampy places and are led to inquire into the effect of moisture on the range of plants. It was then recalled that the most remarkable feature as we descended the sloping hill side, was the change in character of the plants from those on the crest where we saw the wild cherry, hard maple, walnut, butternut, various oaks and so on, to those bordering the broad valley where we find cottonwood, popple, balm of gilead, willows in several varieties, the haws and hazel with its sheep tails waiting for "little bo-peep." And as we see all this with relics of winter on every hand our guide calls our attention to the bare branches of the bur-oak and to those of the red-oak still holding the umbrageous branches of last summer, from which the leaves, even now, beautiful in their ferruginous hue, will not fall till forced off by the new season's buds. Then as our attention is called to these interesting details we ask if this separation of plants in so striking manner is due to the amount of moisture present; does drainage account for the range of plants?

The guide then points out and lets nature demonstrate, that we might have taken up the study of botany in a very different manner, and also, that this method has been very carefully elaborated and developed under what is known as Ecological botany; that is, practically a study of the conditions under which plants thrive, he tells us that light,

heat, wind, soil and rain are the most important factors and that as a result of investigations along these lines, plants may be divided into three or four tolerably well defined groups, those growing in water being known as Hydrophytes and presenting histological characters which show their adaptability to surrounding conditions; those growing in elevated and very dry situations representing the other extreme group are called Xerophytes and show characters of accommodation equally pronounced. Between these two groups we find the Mesophytes or those plants which make up the general mass of vegetation and whose range is very great and whose conformity to changing conditions is also truly marvelous.

This has been a perambulating discourse and would probably have continued, but now again we find ourselves on the edge of a boggy meadow. The formation of hummocks is explained to us as being due to the expansion of ice formed in the matted masses of fibrous roots, thus raising these clumps higher and higher. We always supposed that they resulted from the footsteps of cattle, but this scarcely seemed possible for we have seen them on hill and mountain sides where cattle have never grazed. At this moment one of us spied a peculiar cone shaped purple flower springing directly from the soft mud and from the way it started our guide off one might imagine it to be a powerful brain and tongue stimulant, he does not lose a moment and the rapidity with which the questions flow from this human interrogation point fills us with surprise, then with profound interest.

This flower in which we see a great spathe surrounding a peculiar fleshy axis, the spadix, is the skunk cabbage, the flower appears before the leaf and none are in sight at this time, the guide says we will meet with them later in the season and tells us that the leaves of all but one or two genera belonging to this family, have net-veined leaves, although they are monocotyls. From him we learn that the Indian turnip or "Jack-in-the-pulpit" of our text book, the calla, the caladium or "Elephant's Ear," the golden club

and the calamus or sweet flag of the pharmacopoeia are all members of this family; the calamus being the only one with grass like leaves.

Next we came across a great granite boulder and our guide had a lecture on geology all ready. He called attention to the large crystals of red and white, the crystals of quartz, the flakes of mica, the deep scratches on one face and the general rounded form. It seemed as though he turned on his Roentgen ray apparatus and with fluoroscopic eyes was reading from the inner pages without even opening the stony covers. The arrangement of molecules, crystallization, silicon, silicates and colors, the glacial periods, movement of these lithic masses, the flow of water, deposition of gravel and clay and formation of the arable surface and geologic periods from archaean to quaternary and the evolution of plants and animals followed each other with charming and interesting rapidity. It is now beginning to dawn upon us that there are several pages in the world's and life's history that we have not yet seen.

ALUMNI NOTES.

Charles W. Boyce '05, Milton Johnson '05, William Leiner '04, John K. Parker '05, Chas. E. Powell '04 and Bernard Schultejann '05, passed the February examination of the State Board of Pharmacy and are now registered pharmacists.

Harry A. Boyce '97 visited the school recently. Mr. Boyce is traveling for the H. K. Mulford Co.

O. R. Colby '04 is established in the drug business as a partner in the Colby-Welsh Drug Co., Litchfield, Ill.

Adolph Dauber '99, W. J. Mercil '02 and Dr. E. F. Peterson '01 were recent visitors at the school.

Professor Puckner has resigned his position of chief chemist for the Searle & Hereth Co., and has entered upon the duties of Secretary of the Council of Pharmacy and Chemistry of the American Medical Association. He will also be the chemist for the Association as soon as the

Pharmacy

chemical laboratory is installed, which will be within a few months.

Milton Johnson '05 has opened a new pharmacy at Chicago and Western Avenues. His clerk is J. F. Hartig, '03.

F. G. D. Walker for several months prescriptionist at Pyatts Pharmacy has returned to his home in Nebraska.

SENIOR NOTES.

The real sign of spring—Murray the shirt waist boy.

Ask Don to tell you the story of the crane and how the snake looped the loop.

One of our fellow students who took the State Board Examination went in as an A. P. but said that they fooled him so much that when he came out he felt like an A. P. E.

Grebel is now an assistant pharmacist in Wisconsin, he having passed the examination February 20.

Poor Haeseler, sorry he didn't hear of Meixner's mustache grower, that makes hair grow while you wait. He has been waiting all this while for the glandular trichomes to develop before having his picture taken. He finally grew despondent over the fact that they didn't grow enough to make a good showing and so grew desperate and so went down to the photographer to pose without a mustache.

Whenever you get that odoriferous pipe smell look for Holland.

Upon opening his kit, White found a lock of hair nicely rolled up and placed in his laboratory book. Wonder who the woman in the case is; 'fess up White.

Cropp: What is miasmatic? The disease or the tree?

Kraemer, an ex. '06 student, came up one day to look around.

The following were successful at the recent State Board examinations as Registered Pharmacists: L. M. Haeseler, G. E. White, D. G. Machenheimer, H. G. Carlson, Wilbur Grimes and J. W. Robinson. S. E. Arentz and Paul Seyfert registered as assistants.

A bunch of violets was sent to Miss Arnold one day and quite a bit of gossip has been going on ever since. Just who the sender was we don't know, but we have an idea that it is some one who stands not fifty feet away from her in the laboratory.

Tyler and Carlson were recently on the sick list but are back with us again.

Poor Grimes, he has troubles of his own too. Cheer up, old man, it may not be true.

Work on the class picture is nearing an end, all of the boys have had their sittings, and it is hoped that the large class pictures will be out by the first of April.

Two special lectures were delivered during the month of February and were well attended. The first was by Mr. I. Giles Lewis of the firm of Robert Stevenson & Co., whose topic was "Olive Oil." This lecture proved very interesting and very instructive. The speaker referred to the antiquity of the olive and described the collection and preparation of the fruit, the expression of the oil, mentioned its adulteration and the safeguards which our government inspection provides and pointed out the tests by which pure olive oil could be distinguished from that which is adulterated with cotton seed oil. The second lecture was delivered by S. H. Hertle, and the subject was "Druggists' Printing, Labels and Boxes." Mr. Hertle's talk was enlivened by suggestions regarding what to avoid in selecting labels and boxes. He spoke of the improvement in taste shown in the selection of these parts of the druggists' outfit and said that gaudy and highly-colored labels for prescription containers are now a thing of the past. Labels with a broad black border are also to be avoided as too suggestive of mourning. The druggists' printing is an index to the character of his store, and should be a silent salesman of no little value. The lecture showed a large line of boxes and cartons and indicated the process by which lithographed labels are printed. The lecture was a most enjoyable one.

JUNIOR NOTES

The school year is drawing to a close and a falling off in the attendance is noticeable. The recent examinations have been too strenuous for some of the weak brothers. The last botany examination was a "cracker-jack" and calculated to try the metal of the best of us. But the majority of us are still at the front and we look forward next year to the largest senior class the school has ever had.

The students who will remain in the city are planning to attend the botanical excursions with Professor Day and are anticipating some pleasant outings. Glencoe, River Forest and Gibson, Ind., will be some of the localities visited. Don't forget to leave your name and address, so as to be notified of these excursions.

A number of the students intend to find out how much they know by "going against" the State Board Examination April 3rd and 4th. At the February examination E. T. Biggs, T. J. Boyd, H. R. Krampff, J. J. Krzymieniewski, J. E. Miles and C. R. Yundt passed for assistant. Knick passed the Wisconsin Board for assistant February 20.

Mr. Christmann's picture of the class, taken at the Logan monument was a decided success. But what do you think of Scheiner? Wach thinks we ought to have more young ladies like Miss Reisman in our class and we agree with him.

Nelson knows how to charge citrate bottles. He's been there before.

Some members of the class are already dreaming of those three fateful days, April 16th, 17th and 18th, when the finals are held.

BY REQUEST.

The following resolution was unanimously adopted by the Germantown Homeopathic Medical Society of Philadelphia, at its last meeting, and ordered sent to the daily papers and medical journals:

Resolved. That the Germantown Homeopathic Medical Society, of Philadelphia, places itself on record as opposed to the manufacture and sale of all patent medicines or nostrums of whatsoever sort, and requests all members of the medical fraternity to abstain from publishing their articles in any medical journal advertising patent medicines or nostrums.

This Society commends all medical journals and all newspapers which abstain from advertising patent medicines and nostrums for their campaign against the the patent medicine and nostrum business.

The pure-food Commissioner of the State is commended for the work he is accomplishing in this direction, and this Society pledges him its support in all future efforts of the same kind.

The public is cautioned against the use of patent medicines and nostrums as unscientific and dangerous to the general health and welfare.

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THE PLEXUS

COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT OF THE
UNIVERSITY OF ILLINOIS,
CHICAGO.

VOL. XII.

BATAVIA, APRIL 20th, 1906.

NO 4.

PHARMACOPOEIAL SUBSTANCES, USES AND DOSES.

BY BERNARD FANTUS, M. D.

Professor of Materia and Therapeutics, Medical Department University of Illinois.

Hydrargyrum Ammoniatum: Uses—Parasiticide; local stimulant.

Prep.—Unguentum hydrargyri ammoniati. 10 per cent.

Hydrastina: Uses—Uterine hemostatic. Dose, 0.01 Gm.

Hydrastinae Hydrochloridum: Uses—Uterine hemostatic; locally, alterative in catarrh. Dose, 0.03 Gm.

Hydrastis. Uses—Bitter tonic and alterative. especially locally in catarrhs. Dose. 2 Gm.

Prep.—1. Fluidextractum hydrastis. Dose, 2 Cc.

2. Glyceritum hydrastis. 100 per cent, Dose, 2 Cc.

3. Tinctura hydrastis. 20 per cent. Dose. 4 Cc.

Hyoscinae Hydrobromidum: Uses—Hypnotic, mydriatic, antispasmodic. Dose, 0,0005 Gm.

Hyoscyaminae Hydrobromidum: Uses—Hypnotic, mydriatic, antispasmodic. Dose, 0,0005 Gm.

Hyoscyaminae Sulphas: Uses—Hypnotic, mydriatic, antispasmodic. Dose, 0,0005 Gm.

Hyoscyamus: Uses—Hypnotic, mydriatic, antispasmodic. Dose, 0,25 Gm.

Prep.—1. Extractum hyoscyami. Dose, 0,065 Gm.

2. Fluidextractum hyoscyami. Dose, 0,20 Cc.

3. Tinctura hyoscyami. 10 per cent. Dose, 1,00 Cc.

Iodoformum: Uses—Antiseptic dusting powder. Dose, 0,25 Gm.

Prep—Unguentum iodoformi. 10 per cent.

Iodolum: Uses—Antiseptic dusting powder. Dose, 0,25 Gm.

Iodum: Uses—Irritant. antiseptic, absorbent, alterative. Dose, 0,005 Gm.

Prep.—1. Liquor iodi compositus. 5 per cent, Dose, 0,2 Cc.

2. Tinctura iodi. 7 per cent, Dose, 0,1 Cc.

3. Unguentum iodi. 4 per cent.

Ipecacuanha: Uses—Expectorant, stomachic, cholagogue, diaphoretic. Dose, 0,065 Gm. Emetic. Dose, 1 Gm.

Prep.—1. Fluidextractum ipecacuanhae. Dose, expectorant, 0,05 Cc.; emetic, 1,00 Cc.

2. Vinum ipecacuanhae. Fluidextract, 10 per cent, Dose, 1 Cc.

3. Syrupus ipecacuanhae. 7 per cent. Contains acetic acid. Dose, expectorant, 1 Cc.; emetic, 15 Cc.

4. Pulvis ipecacuanhae et opii. 10 per cent, Dose, 0,50 Gm.

5. Tinctura ipecacuanhae et opii. 10 per cent, Dose, 0,50 Cc.

Jalap. Uses—Drastic hydragogue cathartic, Dose, 1 Gm.

Prep.—1. Resina jalapae. Dose, 0,125 Gm.

2. Pulvis jalapae compositus. 35 per cent. Dose, 2 Gm.

Kaolinum: Uses—Simple dusting powder.

Prep.—Cataplasma kaolini.

Kino: Uses—Astringent. Dose, 0,50 Gm.

Prep.—Tinctura kino, 5 per cent, Dose, 4 Cc.

Krameria: Uses—Astringent. Dose, 1 Gm.

Prep.—1. *Extractum krameriae*. Dose, 0,50 Gm.

2. *Fluidextractum krameriae*. Dose, 1 Cc.

3. *Tinctura krameriae*. 20 per cent, Dose, 4 Cc.

4. *Syrupus krameriae*. Fluidextract, 45 per cent, Dose, 4 Cc.

5. *Trochisci krameriae*. 0,06 Gm. in each.

Lactucarium. Uses—Feeble hypnotic, anodyne, antispasmodic. Dose, 1 Gm.

Prep.—1. *Tinctura lactucarii*. 50 per cent, Dose, 2 Cc.

2. *Syrupus lactucarii*. Tinct., 10 per cent.

Contains citric acid, 0,1 per cent, Dose, 8 Cc.

Lappa. Uses—Diaphoretic, diuretic. Dose, 2 Gm.

Prep.—*Fluidextractum lappae*. Dose, 2 Cc.

Leptandra: Uses—Cholagogue cathartic. Dose, 1 Gm.

Prep.—1. *Extractum leptandrae*. Dose, 0,25 Gm.

2. *Fluidextractum leptandrae*. Dose, 1 Cc.

3. *Pilulae catharticae vegetabiles*. Extract 0,015 Gm. in each.

Limonis Cortex: Uses—Flavoring agent.

Prep.—*Tinctura limonis corticis*. 50 per cent.

Limonis Succus: Uses—Antiscorbutic; flavoring agent. Dose, 30 Cc.

Linum: Uses—Demulcent, emollient.

Lithii Benzoas: Uses—Antiseptic, diuretic. Dose, 1 Gm.

Lithii Bromidum: Uses—Sedative nervine. Dose 1 Gm.

Lithii Carbonas: Uses—Alkaline diuretic. Dose, 0,50 Gm.

Lithii Citras: Uses—Diuretic. Dose, 0,50 Gm.

Prep.—*Lithii citras effervescens*. 5 per cent, Dose, 8 Gm.

Lithii Salicylas: Uses—Antirheumatic. Dose, 1 Gm.

Lobelia: Uses—Antiasthmatic, expectorant. Dose, 0,5 Gm.

Prep.—1. *Fluidextractum lobeliae*. Dose, 0,5 Cc.

2. *Tinctura lobeliae*. 10 per cent, Dose, expectorant, 1 Cc.; emetic, 4 Cc.

Lupulinum: Prep.—1. Fluidextractum lupulini. Dose, 1 Cc.

2. Oleoresina lupulini. Dose, 0,20 Gm.

Lycopodium: Uses—Simple dusting powder.

Magnesii Carbonas: Uses—Antacid; laxative. Dose 3 Gm.

Prep.—Liquor magnesii citratis. Dose, 360 Cc.

Magnesii Oxidum: Uses—Antacid; laxative. Dose, 2 Gm.

Magnesii Sulphas: Uses—Hydragogue purgative. Dose, 16 Gm.

Prep.—Magnesii sulphas effervescens. 50 per cent, Dose, 16 Gm.

Maltum: Uses—Demulcent, nutritive. Used in form of:

Prep.—Extractum malti. Dose, 16 Cc.

Mangani Dioxidum Praecipitatum: Uses—Emmenagogue. Dose, 0,25 Gm.

Mangani Hypophosphis: Uses—Tonic. Dose, 0,20 Gm.

Prep.—Syrupus hypophosphitum compositus. 0,225 per cent. Dose, 8 Cc.

Mangani Sulphas: Uses—Hematinic. Dose, 0,25 Gm.

Manna: Uses—Laxative. Dose, 16, Gm.

Marrubium: Uses—Stomachic; feeble diuretic; diaphoretic. Dose, 2 Gm.

Mastiche: Uses—Mild local stimulant. Dose, 2 Gm.

Prep.—Pilulae aloes et mastiches. See aloes.

Matico: Uses—Stimulant blennorrhotic. Dose, 4 Gm.

Prep.—Fluidextractum matico. Dose, 4 Cc.

Matricaria: Uses—Carminative, diaphoretic. Dose, 16 Gm.

Mentha Piperita. Uses—Stomachic, carminative, flavoring. Dose, 4 Gm.

Prep.—1. Aqua menthae piperitae. Dose, 16 Cc.

2. Spiritus menthae piperitae. 10 per cent. Dose, 2 Cc.

Mentha Viridis: Uses—Same as peppermint. Dose, 4 Gm.

Prep.—1. Aqua menthae viridis. Dose, 16 Cc.

2. *Spiritus menthae viridis*. 10 per cent. Dose.

2 Cc.

Menthol; Uses—Antiseptic; local analgesic; and those of peppermint. Dose, 0,065 Gm.

Methylis Salicylas. Uses—Antirheumatic. Dose, 1 Cc.

Methylthioninae Hydrochloridum: Uses—Antimalarial; analgesic; sedative. Dose, 0,25 Gm.

Mezereum: Uses—Rubefacient. Dose, 0,50 Gm,

Prep.—Fluidextractum mezerei.

Morphina: Uses—See opium. Dose, 0,01 Gm.

Morphinae Acetas: Uses—See opium. Dose, 0,015 Gm.

Morphinae Hydrochloridum: Uses—See opium. Dose 0,015 Gm.

Morphinae Sulphas: Uses—See opium. Dose, 0,015 Gm.

Prep.—Pulvis morphinae compositus. 1,5 per cent, Dose, 0,50 Gm.

Moschus: Uses—Antispasmodic, general stimulant. Dose, 0,25 Gm.

Prep.—Tinctura moschi. 5 per cent, Dose, 4 Cc.

Myristica: Uses—Flavoring agent, carminative. Dose 0,50 Gm.

Myrrha: Antiseptic; stimulant to mucous membranes; carminative; expectorant; emmenagogue (with aloes). Dose. 0,5 Gm.

Prep.—1. Tinctura myrrhae. 20 per cent, Dose, 1 Cc.

2. Tinctura aloes et myrrhae. 10 per cent, Dose, 2 Cc.

3. Pilulae aloes et myrrhae. 0,06 Gm. in each. Dose, 2 pills.

Naphthalenum: Uses—Antiseptic.—Dose, 0,125 Gm.

Nux Vomica: Uses—Stomachic; motor excitant; circulatory and respiratory stimulant. Dose, 0,065 Gm.

Prep.—1. Extractum nucis vomicae. Dose, 0,015 Gm.

2. Fluidextractum nucis vomicae. Dose, 0,05 Cc.

3. Tinctura nucis vomicae. 10 per cent, Dose, 0,6 Cc.

Oleum Amygdalae Expressum: Uses—Emollient. Dose, 30 Cc.

Oleum Cajuputi: Uses—Parasiticide, irritant, carminative. Dose, 0,5 Cc.

Oleum Chenopodii: Uses—Anthelmintic against round worm. Dose, 0,2 Cc.

Oleum Cinnamomi: Uses—Flavoring agent, stomachic, carminative. Dose, 0,05 Cc.

Prep.—1. *Aqua cinnamomi*. Dose, 16 Cc.

2. *Spiritus cinnamomi*. 10 per cent, Dose, 2 Cc.

Oleum Erigerontis: Uses—Internal hemostatic. Dose, 1 Cc.

Oleum Gaultheriae: Uses—Antirheumatic. Dose, 1 Cc.

Prep.—*Spiritus gaultheriae*. 5 per cent, Dose, 2 Cc.

Oleum Gossypii seminis: Uses—Nutrient, emollient. Dose, 16 Cc.

Oleum Juniperi: Uses—Diuretic. Dose, 0,2 Cc.

Prep.—1. *Spiritus juniperi* 5 per cent, Dose. 2 Cc.

2. *Spiritus juniperi compositus* 0,4 per cent, Dose, 8 Cc.

Oleum Lavandulae Florum: Uses—Mainly as flavoring agent. Dose, 0,2 Cc.

Prep.—1. *Spiritus lavandulae*. 5 per cent, Dose. 2 Cc.

2. *Tinctura lavandulae composita*. 0,8 per cent, Dose, 2 Cc.

Oleum Morrhuæ: Uses—Nutrient tonic. Dose, 16 Cc.

Prep.—1. *Emulsum olei morrhuæ*. 50 per cent, Dose, 8 Cc.

2. *Emulsum olei morrhuæ cum hypophosphitibus*. 50 per cent, Dose, 8 Cc.

Oleum Olivæ: Uses—Emollient, demulcent, nutrient. Dose, 30 Cc.

Oleum Ricini: Uses—Purgative. Dose, 16 Cc.

Oleum Rosæ: Uses—Flavoring agent.

Prep.—*Aqua rosæ fortior*. Dose, 8 Cc.

Aqua rosæ. Dose, 16 Cc.

Unguentum aquæ rosæ.

Oleum Rosmarini: Uses—Flavoring agent especially for external preparations. Dose, 0,2 Cc.

Oleum Santali: Uses—Diuretic; blennorrhetic; and expectorant. Dose, 0,5 Cc.

Oleum Terebinthinae: Uses—Rubefacient; carminative.

Prep.—1. Linimentum terebinthinae. 35 per cent.

2. Oleum terebinthinae rectificatum. Dose, 1 Cc.

Emulsum olei terebinthinae. 15 per cent, Dose, 4 Cc.

Oleum Theobromatis: Uses—Suppository basis, emollient.

Oleum Thymi: Uses—Diuretic; blennorrhetic; expectorant. Dose, 0,2 Cc.

Oleum Tiglii: Uses—Drastic cathartic; pustulant. Dose, 0,05 Cc.

Opium: Uses—Anodyne; hypnotic; sedative; antidiarrheal; antibeckic; antiemetic, diaphoretic (with ipecac). Dose, 0,10 Gm.

Prep.—1. Extractum opii. Dose, 0,03 Gm.

2. Tinctura opii. 10 per cent, Dose, 0,5 Cc.

3. Tinctura opii deodorati. 10 per cent, Dose, 0,5 Cc.

4. Vinum opii. 10 per cent. Dose, 0,5 Cc.

5. Acetum opii. 10 per cent, Dose, 0,5 Cc.

6. Tinctura ipecacuanhae et opii. 10 per cent, Dose, 0,5 Cc.

7. Pulvis ipecacuanbae et opii. 10 per cent, Dose, 0,5 Gm.

8. Tinctura opii camphorata. 0,4 per cent, Dose, 8 Cc.

9. Pilulae opii. 0,065 Gm. each. Dose, 1 pill.

10. Trochisci glycyrrhizae et opii. 0,005 Gm. in each.

11. Emplastrum opii. Ext. 6 per cent. Externally.

Pancreatinum: Uses—Digestant. Dose, 0,50 Gm.

Paraffinum: Uses—Emollient.

Paraldehydum: Uses—Hypnotic. Dose, 2 Cc.

Pareira: Uses—Diuretic. Dose, 2 Gm.

Prep.—Fluidextractum pareirae. Dose, 2 Cc.

Pelletierinae Tannas: Uses—Anthelmintic against tape-worm. Dose, 0,25 Gm.

Pepo: Uses—Anthelmintic against tape-worm. Dose, 30 Gm:

Pepsinum: Uses—Digestant. Dose, 0,25 Gm.

Petrolatum: Uses—Emollient.

Petrolatum Liquidum: Uses—Emollient; demulcent.

Phenol: Uses—Caustic; disinfectant; antiseptic; local anesthetic, antipruritic; antiemetic. Dose, 0,065 Gm.

Prep.—1. Phenol liquefactum 86,4 per cent phenol, with 13,6 per cent of water. Dose, 0,05 Cc.

2. Glyceritum phenolis. Liquefied phenol. 20 per cent, Dose, 0,3 Cc.

3. Unguentum phenolis. Phenol, 3 per cent.

Phenylis Salicylas: Intestinal antiseptic. Dose, 0,50 Gm.

Phosphorus: Uses—Tonic and alterative. Dose, 0,0005 Gm.

Prep—Pilulae phosphori. 0,0006 Gm. each. Dose, 1 pill.

Physostigma: Uses—Motor depressant; myotic; stimulant to involuntray muscle. Dose, 0,10 Gm.

Prep.—1. Extractum physostigmatis. Dose, 0,008 Gm.

2. Tinctura physostigmatis. 10 per cent, Dose, 1,00 Cc.

Physostigminae Salicylas: Uses—Myotic, stimulant to involuntary muscle, motordepressant. Dose, 0,001 Gm.

Phytolacca: Uses—Emetic; dose, 1 Gm. Alterative; dose, 0,125 Gm.

Prep.—Fluidextractum phytolaccae. Dose (emetic), 1 Cc; (alterative), 0,1 Cc.

Pilocarpinae Hydrochloridum: Uses—Diaphoretic. Dose. 0,01 Gm.

Pilocarpinae Nitrās: Uses—Diaphoretic. Dose, 0,01 Gm.

Pilocarpus: Uses—Diaphoretic. Dose, 2 Gm.

Prep.—Fluidextractum pilocarpi. Dose. 2 Cc.

Piper: Uses—Counterirritant; stomachic; carminative. Dose, 0,50 Gm.

Prep.—Oleoresina piperis. Dose, 0.03 Gm.

Piperina: Uses—Antiperiodic (?). Dose, 0.20 Gm.

Pix Liquida: Uses—Local stimulant; antiseptic; expectorant. Dose, 0.5 Gm.

Prep.—1. Syrupus picis liquidæ. 0.5 per cent. Dose, 4 Cc.

2. Unguentum picis liquidæ. 50 per cent.

Plumbi Acetas: Uses—Astringent. Dose, 0.065 Gm.

Prep.—1. Emplastrum plumbi.

2. Unguentum diachylon. Lead plaster 50 per cent.

3. Liquor plumbi subacetatis. 25 per cent.

4. Liquor plumbi subacetatis dilutus. 1 per cent.

5. Ceratum plumbi subacetatis. Sol. lead subacet. 20 per cent.

Plumbi Iodidum: Uses—Sorbefacient.

Plumbi Nitras: Uses—Caustic. applied as powder.

Plumbi Oxidum: Uses—In preparing solution of lead subacetate.

Podophyllum: Uses—A drastic cholagogue cathartic. Dose, 0.5 Gm.

Prep.—1. Resina podophylli. Dose (purgative), 0.015 Gm.; (laxative), 0.005 Gm.

2. Fluidextractum podophylli. Dose, 0.5 Cc.

3. Pilulæ podophylli, belladonnæ et capsici. Resin. 0.016 in each. Dose, 1 pill.

Potassii Acetas: Uses.—Alkaline diuretic. Dose, 2 Gm.

Potassii Bicarbonas: Uses—Antacid. Dose, 2 Gm.

Potassii Bitartras: Uses—Diuretic, cathartic. Dose (diuretic), 2 Gm.; (cathartic), 15 Gm.

Potassii Bromidum: Uses—Sedative nervine. Dose, 1 Gm.

Potassii Carbonas: Uses—Feeble caustic; solvent. Dose, 1 Gm.

Potassii Chloras: Uses—Antiseptic; stimulant to mucous membrane. Dose, 0.25 Gm.

Prep.—Trochisci potassii chloratis. 0.15 Gm. in each.

Potassii Citras: Uses—Alkaline diuretic. Dose. 1 Gm.

Prep.—1. Potassii citras effervescens. 20 per cent. Dose, 4 Gm.

2. Liquor potassii citratis. 8 per cent, Dose, 16 Cc.

Potassii Cyanidum: Uses—Antipruritic. Dose, 0.01 Gm.

Potassii Dichromas: Uses—Caustic and antiseptic. Dose, 0,01 Gm.

Potassii et Sodii Tartras: Uses—Hydragogue purgative. Dose, 8 Gm.

Prep.—Pulvis effervescens compositus. Dose 1 set of 2 powders.

Potassii Ferrocyanidum: Uses—Mainly in preparation of cyanides. Dose, 0,50 Gm.

Potassii Hydroxidum: Uses—Caustic, solvent.

Prep.—Liquor potassii hydroxidi. 5 per cent, Dose, 1 Cc.

Potassii Hypophosphis: Uses—Expectorant, tonic. Dose, 0.50 Gm.

Prep.—Syrupus hypophosphitum. 1,5 per cent, Dose, 8 Cc. Syrupus hypophosphitum compositus. 1,75 per cent, Dose, 8 Cc.

Potassii Iodidum: Uses—Alterative. Dose, 0.50 Gm.

Prep.—Unguentum potassii iodidi. 10 per cent.

Potassii Nitras: Uses—Diuretic. Dose, 0.50 Gm.

Potassii Permanganas: Uses—Antiseptic; deodorant; emmenagogue. Dose. 0,065 Gm.

Potassii Sulphas: Uses—Cathartic. Dose, 2 Gm.

Prunum: Uses—Laxative; corrective for senna, e. g., in confection of senna.

Prunus Virginiana: Uses—Aromatic bitter tonic; feeble nerve sedative; flavoring agent. Dose, 2 Gm.

Prep.—1. Fluidextractum pruni virginianae. Dose, 2 Cc.

2. Syrupus pruni virginianae. 15 per cent, Dose, 4 Cc.

3. Infusum pruni virginianae. 4 per cent, Dose, 60 Cc.

Pyrethrum: Uses—Rubefacient, sialogogue. Dose, 2 Gm.

Prep.—Tinctura pyrethri. 20 per cent.

To be Continued.

THE BUBONIC PLAGUE AS OBSERVED IN SYDNEY, NEW SOUTH WALES.

BY G. FRANK LYDSTON. M. D.

It was my good fortune some months since to be in the city of Sydney, Australia, during the decline of the last epidemic of bubonic plague in that city. An account of the disease as therein observed may interest the readers of the PLEXUS.

Plague in Australia had some redeeming features Sydney has had two epidemics, the first in 1900, the second in 1902. The Sydney epidemics, gave the only opportunity experienced for the study of plague among civilized white people under modern scientific conditions and by men fitted by experience and laboratory technique to make observations of value.

To illustrate the extraordinary facilities which Sydney has offered for the study of plague, it will be necessary to cover the first epidemic—the lessons of which have in the main been substantiated by the last one.

The first epidemic comprised 303, cases, 293 whites and 10 Chinese. The mortality was a trifle less than 34 per cent., but the mortality among the Chinese taken alone was much greater, 80 per cent. This race seems comparatively non-resistant to the disease. Twenty-three cases occurred in West Australia, 21 white and 2 Chinese. One white and two Chinese died. The 1902 epidemic comprised 141 cases. The proportion of Chinese and the mortality rate were not widely different from the 1900 epidemic. The Chinese population of Sydney is small. Nearly four times as many men were attacked as females. Occupation exposure probably explained this.

The origin of the plague in 1900 was probably Hong Kong, via Noumea, New Caledonia. The 1902 epidemic was also brought from the Orient. The method of transmission will shortly be mentioned. In 1900 the plague caused great popular excitement, resulting disastrously in that by it the government was impelled to interfere, with [automatic

regularity and asinine stupidity, with the work of the health board.

It is fair to assume that the Sydney epidemic is a safe criterion in plague. On comparing this epidemic with plague as reported from other parts of the world, it will be seen that its record might have been compiled from those made in China, India, Mauritius, Portugal or Mongolia. The differences were non-essential, involving a difference in severity or fatality due to the influence of local life conditions.

The study of plague in Sydney established the fact that the bubonic and septicemic forms at least are not "Catching". That this is not true of "primary plague pneumonia" is probable, and great caution is to be observed here. The exact status of this form, however, is not clearly set forth. The bubonic type was the prevalent one at Sydney, a few cases only of the septicemic form being noted. In the first epidemic, "contacts" were quarantined. In 1902, however, the patient's family was not even kept under surveillance. The former custom was to remove both patient and contacts to the Coast hospital—the government quarantine hospital. Contacts were detained at first 10 days and finally 5 days. Convalescents were allowed to leave in 20 days if there were no open lesions and the temperature was normal. At the time when quarantining of contacts was considered necessary, great trouble was experienced. There is no law in Sydney providing for the removal of contagious diseases, and a special government permit is necessary to remove each case and quarantine the family.

The patients were treated at the hospital with the Yersin Roux anti-plague serum and the contacts were inoculated with the Haffkine prophylactic serum if they so desired. In regard to these serums the conclusion drawn by the health board are:

1. That the value of the prophylactic serum is doubtful.
2. That the use of the prophylactic serum is attended with obstacles which make it almost impracticable, irrespective of its intrinsic merit.

3. That the Yersin-Roux serum is also of doubtful value as a specific. Its action as a temporary "reviver" or cardiac stimulant seems to be demonstrated.

The report upon the prophylactic serum in the 1900 epidemic expresses essentially the situation at the end of 1902. The opinion provisionally formed is that the serum has 'anti-toxic' powers manifested by the recovery of the circulation from the depression which is a natural feature of the disease, but that in its present state it can hardly be relied upon as a curative agent. Probably the dosage requires revision.

Of the subjects inoculated in the 1900 epidemic, 13 were attacked, but it is only fair to say that all but one of these patients not only recovered, but had very light attacks. It is obvious that preventive inoculation had little to do in protecting contacts. Of 1,832 contact only 180 took advantage of inoculation. The rest refused to submit to it.

The clinical study of the preventive inoculation was quite interesting as showing their uniformity, as employed in various parts of the world. The phenomena were briefly: Slight malaise and fever beginning a few hours later, with swelling at the site of puncture. Later there was a slight headache, thirst, and two or three degrees of fever. The arm became painful, presenting a hard "lump" with more or less diffuse swelling, heat and redness. The general symptoms diminished by the end of the third day, but the redness, tenderness and swelling lasted some time longer, the indurated area lasting two or three weeks.

It is an amusing yet instructive fact that in 1900 the public of Sydney, at first wary, afterward suddenly took the preventive bait, hook and all. The health board simply could not handle the crowds of applicants after the work had been in progress for a few days. Interest soon began to wane, however, and the inoculation station was finally closed. Sydney has nearly 500,000 inhabitants, yet the preventive inoculations were only about 11,000 in all. The method was not compulsory, which limited its scope. It was not much applied for by the class of people which was

really in danger. The better classes, at first cautious and timid, probably made a fad of it as soon as it was shown to be safe. "How's your arm?" was a fashionable greeting. The fact that the treatment was gratuitous may have had its effect. Whenever the novelty wore off, however, interest died out.

Apropos of the pains which are taken to inoculate against plague, it is amusing to note that it is impossible to awaken a popular interest in typhoid and other infectious diseases, a thousand-fold more important than plague. Here, as elsewhere, familiarity breeds contempt.

In the first epidemic there were 11,000 preventive inoculations. There was only one fatal case of plague in a "vaccinated" case—even this was doubtful.—But the experience could hardly be said to prove anything. Apropos of the contagiousness of plague, the cases in which contagion from contact in families or otherwise could fairly be suspected, were very few indeed, and those few susceptible of logical explanation on other grounds. There have been no cases of physicians or attendants contracting plague at Sydney. Two physicians and two "post mortem" attendants contracted it at Brisbane. Direct inoculation seemed the probable origin of these cases. In Sydney the nurses were not isolated. They bathed, changed clothing and went about as freely as any one else.

The conveyance of plague by fomites—mediate contagion—is utterly disproved by experience in Sydney. Ingestion of the germ in pure culture does not convey the disease to animals. Animals—rats especially—fed on the viscera of animals or man dead of the disease do, however succumb. That the bubonic or septicemic form can be conveyed by inhalation is doubtful. Nasal mucus from plague rats failed to convey the disease when transplanted to the nasal mucous membrane of healthy animals. The primary pneumonic plague is, however, as already remarked, considered extremely contagious and the most rigid quarantine and isolation are recommended for it.

With the probable exception of the primarily pneumonic

plague type, plague is never communicated from the sick to the well save via skin areas of infection. This is brought about by such media as fleas and by wounds and abrasions, which subsequently become infected. This method, it is asserted, cannot prevail save when bacilli are in the circulation of the skin of the donor of the infection, as in the septicemic form, or within twenty-four hours of death in the bubonic form. The septicemic form, while rare in man, is the most frequent variety of all in rats. Plague is therefore readily communicated from rat to rat or rat to man, but with difficulty from man to man.

Experiments have shown that plague bacilli in or upon such materials as soil, cloth, etc., survive briefly. The deduction drawn in the Sydney laboratory—taking clinical facts and the results of other investigators into consideration is that infection by fomites should not be accepted save where immediate contact of wounds or abrasions with articles recently infected can be proved.

The only case which is reported in detail as apparently due to immediate infection was supposedly due to infection of abrasions of the hands by handling dressings by convalescents. The case, however, lacks microscopic proof and seems to me to be not inconsistent with simple pus infection the more probable condition. The probability of mediate or even contact infection is dealt a heavy blow by the fact that in 1900 176 infected households yielded only 10 apparently secondary cases, which occurred under circumstances so diverse that they cannot be classes together—nor, indeed, can they hardly be classed as “secondary”. Soil, food and atmosphere having been excluded, the ordinary means of spreading infection are practically not considered.

The infection attaches itself to certain localities, and spreads from thence irregularly and not continuously. It may be transported to a considerable distance and form a new focus or foci of infection. It has no special proneness to occur in adjoining houses. There is the same irregularity of spreading among inmates of infected houses. The rarity of the secondary cases in Sydney has already been shown.

The medium of infection seems fairly well established. The first case which appeared in Sydney was preceded by an epizootic epidemic in the rats of a certain locality—Darling Harbor—among the wharves and business houses in that vicinity. Practically all the cases in man were traced indirectly, to this focus of infection. The Sydney rats were undoubtedly infected by ship rats from infected, Oriental, via New Caledonian, ports. The epidemic was proved to be a plague. The epizootic and plague areas practically coincided. The rat and man epidemics died out simultaneously. Experiments proved that same medium between rat and man was necessary to the infection of the latter—experiment further showed that this was afforded by rat fleas, and fleas alone. Thus Simond's flea theory¹ and Hankin's rat theory² were proved and harmonized. It has been contended that the rat flea, *Pulex fasciatus*, does not bite man, but this view was untenable as regards the Sydney rat fleas. That the flea was the most probable medium of contagion was shown by many experiments—not the least of which was a test inoculation of healthy rats by macerated fleas from plague rats. Death resulted and characteristic clinically, post mortem, and microscopically plague was proved. It is very fortunate that dogs and cats are relatively immune to plague. It is probably also fortunate that rat fleas do not display a special predilection for cats and dogs. The *pulex irritans*, however, does infest rats; although in a very small proportion as compared with *pulex fasciatus*. In view of the fact that cats may be infected by eating infected viscera however, it is well to remember the possible secondary danger to man. A possible source of protection occurs to me in the fact that the cats which feed upon the rats of certain unsanitary areas are likely to limit themselves to such areas while the aristocratic cat is not likely to go hunting, if at all, in such localities as plague most effects. Cats are somewhat more susceptible than dogs, but neither are affected through any but experimental channels, save in very rare

¹ *Annals d'1' Inst. Pasteur*, 1899.

² *Ibid.*

cases. When infected rats are eaten by cats there is of course danger of infection of these animals—experimental infection of cats by plague viscera proves this, although plague infection is rare—but, in order that they may infect man several conditions would seem necessary.

1. Fleas must be contracted by the cat from the rat or the cat must already have them.

2. These fleas must be infected.

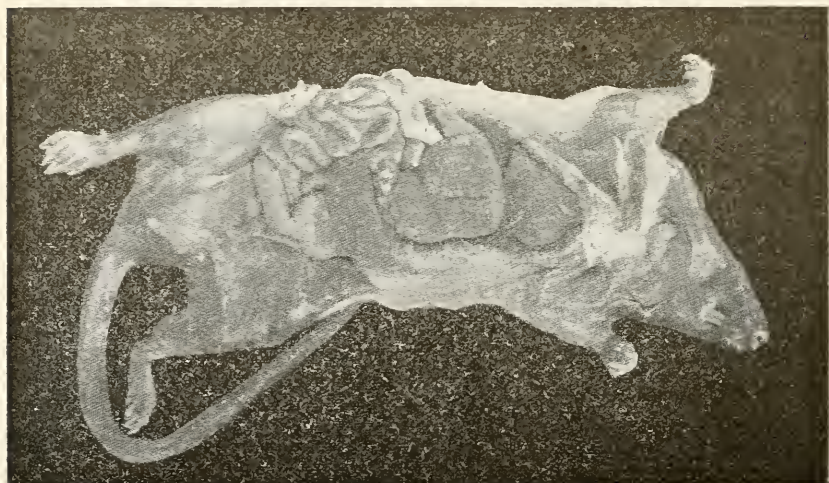
3. These fleas must be fleas which attack man. Possibly the rat flea has no predilection for the cat, or the cat may resist infection by them altogether.

4. The infected fleas must retain their infectiousness until they leave the cat and attack the human being. As the cat is almost immune to the normal method of infection, and there are so many chances of slips in the conveyance of infected fleas, the danger of spreading by cats is greatly minimized. The cat is not likely to be the medium of infection of healthy rats, by bringing diseased bodies home, for he is not likely to go far afield for rats when they are to be had close at hand.

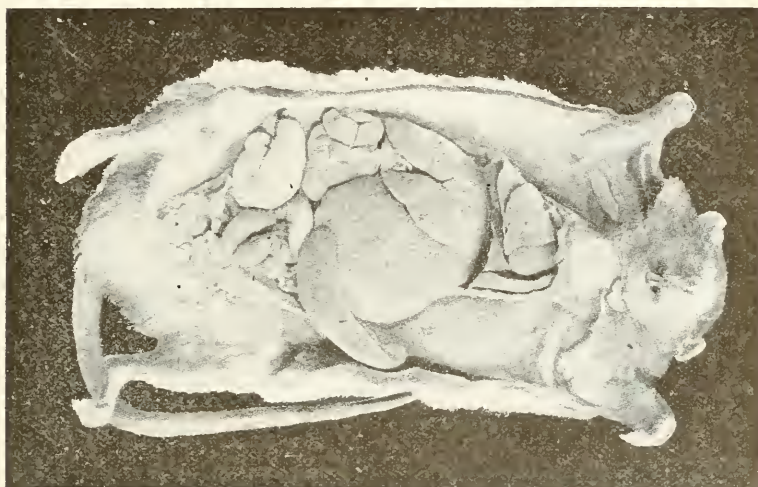
In view of the comparatively recent dissemination of the Hankin rat theory of plague, the rapid crystalization of evidence supporting it in Sydney is somewhat remarkable. It must be remembered that neither the International Convention, nor the Venice Plague Conference which preceded it in 1897, made any allusion to rats in their relation to the plague. Another point which is decidedly creditable to the Sydney Health Board is that it had a supply of Haffkine prophylactic six months before the plague appeared in Noumea, New Caledonia, the port whence Sydney derived the infection. This was the only supply available in that part of the world.

Quite a variety of animals have been shown to acquire plague in the natural way. Rats, mice, monkeys, cats, marmots, bandicoots, pigeons, rabbits, and guinea pigs have been shown to thus acquire it. Rats are the most susceptible of all, but in artificial inoculation the guinea pig and rabbit are found to press the rat closely in this regard.

Strange to say, mice are less susceptible than rats. In the Sydney laboratory experiments rats, mice, cats and guinea pigs were used. The pathologic appearance in rats dead of naturally acquired plague, as shown by the Sydney investigation, are very interesting. Briefly they are as follows: There was usually visceral congestion, general edema, with occasional pleural, meningeal and peritoneal effusion, and hemorrhages under the skin and into the various viscera. Adenopathy was common, not constant, and usually involved several regions, e. g., the femoral, inguinal, bronchial and lumbar. In several cases the cervical and in one case a single mesenteric gland were involved. There were occasional small intracapsular gland hemorrhages, but characteristic buboes with periadenitic extravasation were not found. The liver was usually greatly enlarged, sometimes with white punctate mottling. The spleen was usually swollen, not always. Generally the lungs showed patchy pneumonia, sometimes with small hemorrhages. The suprarenal bodies were often dark, with subcortical renal hemorrhages in a few instances. The gastrointestinal tract was practically free of lesions. There were petechial hemorrhages in the parietal pleura and peritoneum.



Plague bacilli were always found generally distributed throughout the body of the rat. The blood and lungs, however, did not always show them. Experimental inoculation never failed, the animals dying in three or four days. The lesions were the same as after natural infection, save that *the bubo was produced in the glands corresponding to the site of inoculation*. This bears out the view that bubo is incidental rather than necessary to plague.



The specimens from human plague examined comprised material from buboes, carbuncles, blood, sputum, urine, feces, and the viscera. The work was so thorough that one feels that but little of importance is likely to be hereafter added to the results.

The Sydney Health Commissioner is so sure of his ground as regards the etiology of plague that he says: "I am not afraid if a ship brings in one or more plague cases, but very much afraid if she bring in infected rats. Even the pneumonic type in man does not cause an epidemic; the worst it does is to cause an epidemic in the immediate family."

The most rigid quarantine against human cases does

not keep out plague. M. Borel (*Revue d'hygiene et de police sanitaire*) discourses interestingly of the propagation of plague as follows: Regarding the roles played by rats and man in its propagation in a contaminated city, he says: "Mortality among the rats precedes by about a month the first human cases. The part played by inanimate objects in the contagion seems to be significant. Persons attacked by bubonic plague do not infect healthy men. Persons attacked with the septicemic or pneumonic form may propagate it, but not beyond their immediate surroundings. Cases of this kind do not occur primarily, but always follow a preceding bubonic epidemic. Sick rats or other rodents alone play an active part in the propagation of the plague from one section of a city to another, but insects, mosquitoes, or bugs may transmit septicemic plague in the neighborhood of a person suffering from this form of the disease.

"In the Yunnan region the plague is endemic, with a period of recrudescence in the spring; at this time it reaches the surrounding country little by little through the emigration of rats which contaminate those in adjoining districts. Let us suppose that in a given year the climatic conditions were more favorable or of longer duration than in other years. The plague will then reach one of the numerous river ports of the interior of China where it will find some junk or sampan that will take it to Canton or Hong Kong . . . If Yunnan, like Persia for instance, had no river navigation, the plague would never leave it, but if we give the rats a means of transportation, a rapid dissemination of the epidemic to distant points will occur.

"The plague thus reaches Canton and Hong Kong, and mortality among the rats goes on for a month before any human case develops and without arousing the notice of the sanitary authorities. Ships thus continue to take on cargoes and sail with clean bills of health.

"One of these goes to Marseilles—a voyage of about thirty-five days; during the voyage the epidemic passes through its divers phases on board. From attacking rats it reaches men, since it has the requisite time, and on con-

dition that the weather is favorable; upon the arrival at Marseilles, therefore, the authorities will be warned by finding human cases.

"But if this vessel, instead of going to Marseilles, clears for Bombay—a voyage taking not more than fifteen to eighteen days—the epidemic will not have had time to spread beyond the rats; the health authorities will not be warned, and Bombay will be infected. In the same way, in its turn, Alexandria, for instance, might be contaminated.

"The length of voyages is now becoming shorter and shorter; in the Mediterranean, for instance, the maximum is scarcely forty-eight hours. A ship starting from Alexandria may carry infected rats to Smyrna, which will not have time to contaminate the passengers, and will thus cause a new outbreak of the epidemic there. This may travel to Constantinople, to Batavia, or to Odessa, always in the same way and without leaving a trace of the causes of these successive outbreaks.

"This is why we can never tell just what ship infected a place. Contagion is in fact generally carried from a port not officially declared to be infected, where the mortality of rats in the docks would be the only things to attract attention to the matter. When human cases appear it is too late to act, for the infected ships may have left the city a month previous. They have carried, not the bacilli on clothes or other articles, but freshly infected animals, which will infect others during the voyage, if it is long enough, and will thus bring to the city a fresh and virulent culture of the fatal germ in a living organism."

The efforts of the Sydney Health Board are chiefly concerned with the health of the Sydney rats. An enormous amount of work has been done. An average of 800 rats had been examined weekly for some weeks prior to Sept. 28th, 1902. The last plague case was seen June 10th, the last plague rat July 14th, and there had been no cases in either man nor rat for some time prior to these dates. The last rat was discovered in a neighborhood which "was immediately torn upside down," and has since been under the clos

est surveillance, yet no plague rats have since been found. The last plague rat was found July 14th, hence Sydney may be said to have been free from the disease since that date. It is obvious that the search for plague rats must needs be very thorough and sweeping. The rats of a number of adjoining premises may all be healthy save in one. This is a peculiar and most important feature of the disease. Sydney has a special staff of eighteen experienced rat catchers who have become familiar with the dangerous localities. They are intelligent men and practical sanitarians who know precisely what their work is intended to accomplish.

The view that the poorer classes are most subject to plague because of bad air, bad food and uncleanness is held in Sydney to be wrong. They are most subject to it because they most often live in rat infested premises. It may be splitting hairs; but it would seem that bad sanitation has much to do with the prevalence of rats under all circumstances. The rat is a scavenger and selects his feeding grounds with an eye to his material comfort. He most abounds where the human scavenger least attends to business. This, regardless of filthy personal habits as offering boundless hospitality to fleas.

The germ origin of plague is of course established beyond cavil. I do not know in detail what progress was made during the 1902 epidemic of the morphology of the bacillus *pestis bubonicæ*, but the type form was seemingly a little confused, as in 1900. In stained preparations the organism was a straight bacillus, but there was great variation in the elements in the same preparation. In the "mature form" the germ was either a typic bacillus (parallel-sided) or whet-stone or boat-shaped, the sides being bilaterally convex. Interspersed with these were rounded, oval or dumb bell forms resembling micrococci or diplococci. Cultivation developed many polymorphous "involution forms."

The first case in 1900 characteristically occurred in a carman whose work took him to and from a wharf at which the vessels from Kong Kong lay. This wharf, the Central,

was the first infected of many which border Darling Harbor, the undoubted center from which the epidemic radiated. At these various wharves no less than thirteen vessels from plague infected ports lay within 90 days after the first case was discovered. It is interesting to note the typicality of this first case. The case was bubonic in form. Bubo appeared in the lowest gland of the vertical chain in the left thigh. Behind the left external malleolus was a purplish red spot, 3 mm. in diameter. The cuticle was adherent here and broken down at one point of the circumference of the spot. Here, then was the probable atrium of infection. It is unfortunate that this cannot always be found. The degree of local reaction is only exceptionally severe enough to produce a manifest lesion. Flea bites are quite small—on some skins practically invisible. Bubo is most frequent in the femoral or inguinal glands, because the flea most often bites the lower extremities. Wherever the bite, the glandular infection follows the usual course and affects the glands into which the lymphatics at the site of the primary infection drain.

The clinical history of the Sydney plague was as follows: Prodromes were rare and ill-defined. When observed they consisted of one or two days malaise and weariness. The onset of the disease lasted from one to twenty-four hours, and occurred suddenly, usual with rigor, varying from slight chilliness to extreme shivering, some times lasting several hours and accompanied by or followed by severe headache, usually frontal, sometimes vertical, but never occipital. Vertigo was occasional, pain in the back and abdomen common. Vomiting was almost constant and of varying severity. The face was flushed, the eyes suffused and the pulse quick and full. The temperature varied between 100° and 102° F. Constipation was usual. Diarrhea was an occasional early symptom of bad omen and generally accompanied with tympanites. Lymphatic enlargement, femoral, axillary, subpectoral or cervical, was only occasional thus early. In five cases only unexplainable adenopathy was the first symptom.

The foregoing symptoms increased and by the second day were well established. Often, not always, the patient was unable to rise. The suffused eyes were either closed or half open, the complexion was often sallow or livid, sometimes yellow, and the expression pinched. A peculiar smell about the patient was occasional. The tongue was white coated, with clear edges and moist, save in the severer cases. The skin was usually hot and dry. In severe cases it was bathed in cold perspiration from the first. The temperature ranged from 101° to 105° and sometimes reached its highest point on the second day. The pulse, still full, became very quick, and lost tension. In bad cases it was already very weak, perhaps dicrotic. Anorexia was marked usually and constipation continued. The expression often became dazed, but restlessness was occasional. Muscular incoordination resulting in staggering gait, and speech inhibition simulating alcoholism were observed. From mental hebetude the severer cases passed into stupor or even coma. Oftener than not violent delirium developed. Insomnia was marked. One or more superficial glands enlarged and increased rapidly in size to the dimensions of a hazel nut, and was elastic, tender and painful.

The period of maximum intensity lasted from the end of the first forty-eight hours to the end of the fifth and sometimes the sixth day. The temperature now fell from 99° to 102° . Save in mild cases the typhoid state now supervened with complete muscular and nervous prostration and muttering delirium, followed in fatal cases by coma. Diarrhea sometimes set in, and if marked was a fatal sign. Hematemesis, melena, nematuria or purpura sometimes occurred, the pulse became weaker, more rapid and dicrotic. The tongue became dry and brown. Slight albuminuria was noticed. The bubo increased in size, often to the size of a walnut, and periadenitic effusion greatly increased its dimensions. More than half the deaths occurred from the third to the fifth day.

During the sixth to the eighth day, in favorable cases, the stage of decline became manifest. As a rule the tempe-

perature fell suddenly to approximately normal, the mind improved and the tongue cleared. The bubo continued, and if destined to suppurate usually softened at this time. In many cases, however, the bubo remained stationary for six to eight weeks, only to suppurate at last. The pulse remained small and compressible and great weakness was complained of.

About the ninth or tenth day all the symptoms save weak heart and bubo disappeared in favorable cases, ushering in convalescence. The temperature often became quite subnormal. Suppuration, if existent, was now rapid, the abscess discharging about the thirteenth day. In the smaller proportion of cases the gland resolved without suppuration. This was slow and often required many weeks. Convalescence was generally complete in three weeks, leaving only debility and slight bubonic discharge.

In some cases death occurred within a very few hours after the onset of the disease.

Some very interesting points are suggested by a study of the clinical history of the disease;

1. Cerebral toxemia is marked in plague.
2. The *status typhosus* closes the scene in fatal cases, just as in many cases of a primarily or secondarily septic or toxemic character.

3. The decline of the mortality rate after the seventh day is phenomenal. Plague would seem to be characterized by a relatively large toxin dosage, acting quickly, but eliminated rapidly in subjects resisting it.

4. Cases of speedy death are susceptible of two explanations; (a) A relatively large dosage from multiple "bite" inoculations; (b) Individual susceptibility. Obviously these factors may be combined. It is noteworthy in this connection that the patients with violent toxemia and speedy death were either very young or more or less advanced in years. The only case of sudden death which did not fall under either the one or the other heading was in a middle-aged person. What, if any, ailments already existed at the time of infection, does not appear.

5. Bubo seems to be a casual rather than a necessary feature of plague. The purely incidental nature of the adenopathy in plague is of especial importance in view of its wide acceptance as the essential feature of the disease.

The trivial nature of the bubo as compared with the severity of the general disease is very striking, considering the stress that has been laid upon the adenopathy. A peculiar phase of the bubo is the disproportionate circumglandular phenomena, suggestive of an exaggerated elaboration of germ toxins in loco. A further peculiar fact is that the severest forms of plague, i. e., the pneumatic and septicemic do not usually develop bubo. The disease is from this standpoint, very like septic infection, in which, if the glands do not react, because either of glandular non-resistancy, large dosage, or extreme virulence of the infection, fatal general sepsis supervenes.

Simond practically supports this view. Thus he explains the infrequency of the primary phylctenule on the ground that it is only produced when the inoculated bacilli are relatively mild in virulence or small in quantity. Under such conditions there are positive chemotaxis, local leucocytosis and reaction. When the bacilli are large in quantity or very virulent, chemotaxis is negative and there is no reaction. Obviously, the same argument applies to the presence or absence of bubo. Simond does not lay stress upon individual local resistancy.

It is important to know that plague must be chiefly diagnosed from clinical evidence alone. Rigid bacteriologic evidence can rarely be adduced before the fifth day from beginning to seek it, and the patient is likely to die before the evidence is all in. In the Sidney epidemics the bacteriologic diagnosis was established by examination of (1) juice from the bubo and its environs; (2) smears from enlarged glands; (3) smears from viscera; (4) animal inoculation; (5) the blood; (6) cultures. The organism stained with aqueous solution of fuchsin, methyl blue and gentian violet and were decolorized by Gram's method. Inoculations were made chiefly in guinea pigs and rats. Guinea pigs succumbed in

from two to ten days, rarely over six. In re the diagnosis, the early serious aspect of the disease, before bubo appear in many cases, and the disproportionate severity of the general symptoms would seem to be very important points, especially if plague is known to be about.

The human post mortem appearances in the first epidemic in Sydney were studied in twenty-four cases. They were as follows: Petechiae of the skin were found in ten cases, in four or five in the serous and in nineteen cases in the mucous membranes—the latter in the gastrointestinal tract especially. Circumvisceral extravasations were often found. The spleen was enlarged, dark and soft. In two cases only was it normal. Inflamed, swollen, sometimes necrotic glands were found in twenty-one cases. In three none were found. They were surrounded by an area of blood extravasation and œdema. The buboes were sixteen in number—eight femoral, four inguinal, one axillary and three cervical. The heart often contained soft gelatinous clots—with a pale soft myo-cardium in four cases. In fourteen cases the liver was enlarged and fatty. In several cases necrotic spots were noted. The renal cortex was swollen and pale in twelve cases, with pin-point hemorrhages in some. In more than half the cases pulmonary congestion and œdema were marked. In one case there was lobular pneumonia. The distinctly toxic—i. e., septic—nature of the morbid phenomena is somewhat obtrusive.

The prevention of plague seems to be reduced to very simple principles. They are as follows:

1. Prevent rats from getting ashore from vessels by mooring some little distance from the wharf and freshly tarring all ropes, fenders and hawsers which extend from the ship to the wharf. All gangways should be drawn up when not in use. When used at night gangways and wharfs should be brilliantly lighted. It is not easy, of course, to prevent rats from swimming ashore.

2. All ships should be thoroughly fumigated with sulphur or formalin before entry or departure. This is very effective in destroying rats.

3. Great pains should be taken by health officials to keep advised of the health of rats in exposed cities. Any unusual movements or mortality among them should be reported to the health authorities. Plague first appears among rats as an epidemic. Laboratory study should be constant during periods of known or possible exposure.

4. The number of rats should be kept down so far as may be at all times, and especially when cases of plague are found. This is not so effective as might be supposed. Fully 50,000 rats were destroyed in Sydney within a few weeks, yet the number of rats remained seemingly the same. There are of course many sources of error here, and, admitting the apparent fact, a simple explanation would not be far to seek. Rats maintain a pretty constant equilibrium between their number and their means of subsistence. A reward was offered for rats in Sydney; 6d apiece being finally given. The bounty was too high. Rats breed fast and mature quickly, and it would pay to breed them at that price. Probably this was not done. Yankee "thrift" is lacking in Sidney.

5. No matter how remote the chances of contagion, so infectious a disease as plague demands isolation and great care to avoid immediate infection.

6. A general cleaning up is required in districts characterized by bad sanitation. This is especially necessary because the complete destruction of scavenger rats demand in all fairness an equally efficient substitute for scavenger work.

7. Fumigation of all infected and suspected premises. If properly done, rats are destroyed at the same time.

Plague prevention means hard work. There is no royal road to the prevention of plague. The importance of a knowledge of plague prevention is not limited alone to loss of life,—the cost of sanitation and the commercial loss during epidemics is something frightful. This aside from the loss of time and cargo damage incidental to quarantining ships and passengers from infected ports. Even though but a single case exists at the port of departure, these losses

are incurred just the same and must continue until the port of departure is given a clean bill of health.

The tremendous expense incidental to the prevention and extermination of plague is demonstrated by the fact that Sydney has expended as high as 1,250 pounds monthly in the extermination of rats alone.

Great assistance was rendered the authorities by the local profession. Realizing the danger of overlooking plague, early in the epidemic especially, the health board requested notification of all cases of illness which were in the slightest degree suspicious. Compliance was cheerfully rendered. To facilitate sanitation and rat destruction, disinfectants and rat poison with directions for using were gratuitously distributed.

The Sydney method of disposal of plague dead was very simple and would have been effective—although nothing but cremation should be seriously considered. The bodies were wrapped in a sheet wet with bichloride solution $\frac{1}{1000}$ and placed in hermetically sealed coffins by special undertakers; a coarse cloth-wet in the sublimate solution was wrapped about the coffin, which was then taken to the Maritime Quarantine Station and buried at a remote point on the coast, in sandy soil on a steep slope falling to cliffs above the Pacific.

There was nothing half way in the action of the Australian health authorities in dealing with the plague. Even in many of the smaller towns, persons responsible for unsanitary conditions were threatened with criminal prosecution in the event that such conditions were not corrected. This brought offenders to time very promptly. An attempt was made to educate the public. Public lectures on plague were given by eminent medical men. In America medical asininity would severely censure this as "advertising."

That success crowned the efforts of the Australian health authorities is shown that in Melbourne, Victoria, only two days travel from Sydney by sea, and 24 hours by rail, and at Auckland, New Zealand, only three days travel by sea, I heard of only two cases of plague. These cities are in constant communication with Sydney. The cases were

probably contracted outside of the cities in which they occurred. It is noteworthy that in no case did plague contracted in Sydney by persons who went thereafter to other cities, serve as a focus for new cases.

I take great pleasure in reproducing a couple of beautiful plates from specimens prepared by Dr. Frank Tidswell, the able chief assistant of the Sydney Board of Health, upon whom much of the arduous laboratory work devolved. My thanks are due especially to Dr. Ashburton Thompson Health Commissioner of Sydney, for the data necessary to my observations.

100 State St., Chicago, Ill.

APRIL FOOL.

On April 1st thousands of Chicago pedestrians hurried past a pocket-book containing \$500 in cash, believing it a joke. Similarly, many people refuse to order a telephone, thinking it a luxury.

TWO YEARS HENCE.

In 1908 many people will wonder how they ever managed to live in 1906 without a telephone. Many people today wonder why they did not order the service years ago. It saves its cost; places the world's ear at your disposal.—
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MEDICAL DEPARTMENT
UNIVERSITY OF ILLINOIS.
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PSEUDO-SCIENCE.

The frequent apparent similarity between substance and shadow on the one hand, and the short-sighted, oft-times prejudiced mental capacity of human beings on the other hand, keep alive in this world all sorts of shams, make believes, and hollow pretensions. A fraud may be a dupe or a scoundral; his vociferations and performances may be the outgrowth of crass ignorance or the manifestation of a purposeful deception. There are honest and dishonest deceivers; the former are always the more dangerous of the two because they deceive both themselves and their victims. To annihilate the deception in the former case,

two minds must be labored with; in the latter only one mind. Hence rank quackery is always less dangerous and less disatious than is the work of false belief. A sincere believer of the absurd pretensions of so-called Christian Science is infinitely more dangerous than is the newspaper quack who proclaims aloud promises that he, as well as the intelligent part of the community, know that he cannot fulfill.

Self-deception is the bane of this world. It is ubiquitous and hard to suppress. It is the prime object of science and education to banish self-deception. When it is not banished it lifts its ugly head here and there in the guise of pseudo-science and pseudo-learning. It is therefore a constant companion of science and knowledge. Just as we have the poor always with us, in spite of the efforts of the race to better its condition; so in the circles of intelligence and scientific effort, we have with us always the pseudo-scientific. In medicine the pseudo-scientific is considerably in evidence. In medical practice, in medical literature, in medical debates, in medical societies it can be seen and heard everywhere. The false and substantiated is put forth as the true and proven. Vehemence of assertion is innocently regarded as synonymous with positive demonstration. Antiquity of authority is hailed as being quite the same as incontrovertibility. Notoriety is mistaken for solid reputation. Long talking is thought to be the same as conclusive argument. Much bibliography is fondly imagined to be a show of true learning.

In the olden time a long coat, a gold-headed cane and a pompous air were the guilest assumptions of the would-be scientific; in the present time the politically elected high medical officer, the grandiloquent Germano-maniac, the multi-clinical professor with troops of patients tagging after him, and the narrow-minded, ill-informed practitioner, with his much loud noise about being so practical, are all resorting to the same tact of innocent clap trap.

Pseudo science is rife—far too rife—everywhere. Its exhibitions constantly bring to one's mind the old, old story of how the mountain groaned and yet brought forth a poor little mouse. If one keeps his eyes and ears well open these days, he will see plenty of pseudo-science and pseudo-scientists. They are both good things to beware of.

On account of some unauthorized person, posing as collector for the Plexus, having received and receipted for several bills, and not turned the money over to this office, I ask all advertisers to pay no cash to anyone unless he has an order signed by the publisher, J. E. Forrest.

SENIOR PROPHECY.

At an early hour the next morning I was awakened by the usual roar and rattle of wagons, and the endless cry of newsboys. After breakfast I had my baggage taken to the Chicago and Northwestern depot.

Waiting some fifteen or twenty minutes, the train pulled in and we were soon on our way.

I thought of no better way to kill time, so bought a Chicago Herald, and while perusing its pages my eyes rested on the notice of a meeting of the alumni of the College of Physicians and Surgeons in Chicago.

As I was going to that city I was more than glad to attend. After riding what seemed to be an age, we pulled into the city. I ate a very hearty dinner that evening and lingered at the table an hour listening to the jokes that were being told, after which I retired where sleep stole away my consciousness.

The next night I attended the alumni reunion and there were several of my class mates among whom were, E. O. Finney, E. W. Knowles, Chas. H. Tillotson, John F. Lawson, William J. Moldenhauer, Chas. A. Jackson, Emmett E. Horn, Thos. J. O'Leary and Chas F. Schaffarzick.

All had been following the medical profession with the exception of Emmett E. Horn, who for the past three years had made his home in the balmy south among the orange groves, and Thos. J O'Leary who is coining money on his cattle ranch out west.

I asked Tillotson where he had hung out his shingle, and if he and Frederick J. Wagner were in partnership, for I remember at college when you wanted one, you also found the other. He told me that he was still connected with the "Old College" yet, and held the chair of clinical Surgery.

F. J. Wagner I was informed had accepted the position as Coach of the Michigan Foot Ball Team, and that during his three years work with them had not been scored upon, but now he is located at Peoria, Ill. where he is the leading physician, but he will never forget his first case. A German woman who was taken seriously ill, was sent to the hospital.

In the evening her husband inquired how she was getting along, and was told that she was improving. This went on for some time. each day being that the wife was improving. Finally one night when he called he was told that his wife was dead. Seeing the doctor, he went up to him and said: "Vell, doctor, vat did she die of, improvemets?"

Chas. A Jackson was demonstrating the working of his new invention, the "Automatic Obstetrician" upon a manikin. Jackson claims by this invention that the practice of obstetrics will be greatly facilitated and many hours of sleep saved to the overworked physician, all that is necessary is to apply his invention, go make your other calls returning a few hours later to find the child delivered, collect your fee, and make your departure.

E. W. Knowles and A. J. Sears are co-partners in the manufacture and sale of "Danderine," the exhilarating, fertilizing and life producing properties of the same are to the hair what fresh showers of rain and sunshine are to vegetation, causing the hair to grow abundantly strong and beautiful. Their danderine grows hair and they can prove it, as they are living examples of before and after taking.

Charles F. Schoffarzick is enjoying the fruits of his hard earned diploma, by being appointed president of the Nuptial Board, where applicants who desire to be joined in the holy bonds of matrimony have to undergo a severe physical and mental examination, a certificate signed by the board being necessary before a license can be issued by the county clerk. This is a position Charles has long been looking forward to, and his many friends congratulate him on his success. W. J. Moldenhauer is one of the chief surgeons in Chicago, and his book on the Principles of Surgery has found its way into many of our best colleges.

John F. Lawson has charge of the leprosy colony in the Hawaiian Islands, and from his pen many a description of this disease with the treatment by the means of the X-ray and the Radium light have found their way into medical literature.

I also learned that Miss Louise Morrow, after serving an internship in one of the Boston Hospitals had taken a post graduate course at Erlangen, Bavaria.

Benjamin Barker Beeson, who is a celebrated chemist in Detroit, Mich., has lately discovered a diastase which he has incorporated into a chewing gum for the cure of achylia gastrica nervosa.

Armenia Hill is president of the national W. C. T. U., and author of the book entitled, "When Divorce is a Blessing."

SENIOR NOTES.

The class in Ferguson's Clinic decided without a dissenting vote that an examination was not just the thing they were yearning for at this juncture, hence unanimously refused to subject themselves to the strain of a written quiz. Dr. E. M. Brown did not quite share the views of the class in this matter so that when he appeared in the pit on that memorable Friday afternoon the exultation over the newly formed decision was by no means mutual. While strenuous objections were raised there remained little to do for Dr. Brown but abide by the opinion of the class which was tersely set forth by Messrs. W. L. Smith and McMillan. In the oral quiz that followed the recitations of those members of the section who were quizzed indicated to us, and we think to Dr. Brown that his lectures and operations had had undivided attention and that the class had profited in no small measure by his *work*.

Once again has first place in the Country Hospital been won by a P. & S. student, and we are all proud of the fact and more so of L. M. Schmidt who reached the highest mark in the race with 104 competitors. The class predicted

that Schmidt would get a place in the C. C. H. but that he would get first place was hardly hoped for on account of the disadvantages under which he has been working. Our confidence in Moldenhauer was not misplaced. His name appears on the County list as No. 17. Pollock started to study two weeks before the examination and as a pleasant surprise to his friends secured a place as County interne.

After a severe attack of appendicitis with a serious operation and a long and tedious convalescence, Holmes is again answering to his name in roll call. The class not knowing how protracted his illness might prove had begun to entertain fears that he would not be able to graduate with our class, but now that he is with us again we rejoice equally with him that our fears were unfounded.

Harwood holds that there is a right way, and a wrong way even in pushing a cart, so now you seniors on the benches, do not belittle his function in the pit any more.

Stevenson, do not wait with sitting for a picture until you have grown a beard; by that time Koehne may no longer be standing behind a camera.

If it is not asking too much, we would like to see Professor Ferguson once more before we graduate.

If you have forgot the location of P. & S., Hollis, call us up by phone at the time of graduation, and we will see that you find the place.

The craze of picture taking is over. Now, that there are no proofs to pass back and forth will the class once more direct their attention to the lecture for the remainder of the term.

JUNIOR NOTES.

The Juniors have the spring fever but that isn't the worst of it. How about the professors?

Danderine grew those whiskers. Clark can prove it.

Mitchell's Case has been diagnosed. It is Tryponosomiasis otherwise known as the "sleeping sickness."

Dr. Shaw has been compelled to give attention to other members of the class than Ettelson. Clark says the common carotid bifurcates at the lobule of the ear, while Graybeal would make an incision for tracheotomy anywhere from the supra sternal notch to the symphysis menti.

Dr. Lydston is of the opinion that syphilis would soon be eradicated from the ills of mankind if the Junior Class could be turned loose on the public in its present stage of therapeutic knowledge. Syphilis would soon cease to exist by virtue of the rapid elimination of syphilitic individuals. Prescriptions have been concocted calling for from 1 to 2 grains of corrosive sublimate to the dose with the entirely unnecessary directions to increase if necessary.

Dr. Goldberger while quizzing in Laryngology happened to look up as Clark entered the room and, thinking he recognized a senior friend, remarked "Jackson aren't you in the wrong section?" Latest reports have it that Clark has been recently mistaken for Dr. Eberhardt.

A fool and his money are soon parted; likewise, Aimone and his hat.

Prof. Brothers says women on the witness stand rarely testify to distances in terms of ordinary units of measurement. The reason, he says, is because girls are not brought up by the foot and yard stick as are the boys.

The Junior Class has come to think a great deal of Dr. King. They have decided that they would not part with him under any consideration.

Juniors who have been doing quiz class work wish to call attention of the members who are intending to take quiz class work next year to the matter of taking the summer work. It is highly desirable that as many as possible should stay for summer work in order to get credit for some of the senior studies. It will make the quiz work next year easier, more effective and, we hope, more successful than ever before.

FRESHMAN NOTES.

Bill Smith claims he almost knows the schedule by heart now.

Most of the boys are carrying small calenders in their pockets these days, and are gradually marking off the remaining days of school. It has become so serious with some of them that they are figuring out the remaining hours. Oh! what misery awaits them.

Dr's. Price and Eckley, in order to show their appreciation of the good work done by the class (I guess that is the reason) they have decided to invite the class over to the former's house April 20th. I don't know what they propose to do, but if they would allow me to make a suggestion, I would advise that they cover all articles about the house that they wish to use again, with sheet iron. Perhaps a lawn social would be more profitable.

SOPHOMORE NOTES.

Mr. Gerety is again able to attend lectures after having passed through a light attack of pneumonia.

Good many of the members of our class had the opportunity of exploiting their knowledge on tuberculosis at the tubercular exhibit held in the public library building. Mr. Mikkleson especially distinguished himself and states that many invitations were extended to him to lecture to various women clubs in the city.

We advise Lunn to use "Danderine" on his hair.

Mr. Phifer will not take any vacation this summer but will take charge of a large estate belonging to a lady financier now going to Lewis Institute.

Mr. Tisler, a worthy junior, gives castor oil hyperdermically while Goldberger advises suppositories after meals.

Clark will be given a trial in the first ball game of season. This honor is especially due him because of his extreme interest in the game and because he has combated so fiercely for his position.

ALUMNI NOTES.

- '93. W. R. Livingston is located in Oxnard, Cal.
'99. H. H. Bay is located in Crystal Lake, Ill.
'97. C. W. Carter is located in Aledo, Ill.
'97. G. E. Mayhew is practicing in Edgewood, Cal.
'00. G. D. Dowdall is practicing in Clinton, Ill.
'00. R. F. Palmer visited Chicago recently. He is now practicing in Phoenix, Arizona.
'03. C. M. Morgan is practicing in his home town, Camden, Ark.
'04. R. A. Burke is Senior Interne at St. Anthony Hosp.
'05. S. G. Higgins is associated with Dr. Casey A. Wood.

Now is the time for Alumni to think about attending the annual meeting on June 4th.

Kindly let the Alumni Secretary know of any hospital, Sanitarium or corporation positions open for young physicians.

At a recent meeting of the Fifth District Medical Society of South Dakota held at Madison. Dr. H. H. Frudenberg '02, was elected Secretary and Treasurer.

JOHN WEATHERSON,
Secretary.

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BATAVIA, ILL., APRIL 20th, 1906.

SENIOR NOTES.

The Seniors are beginning to see their "finish."

"Sideburns" are beginning to make their appearance, although some of them look slightly frost bitten.

Cupid has been getting busy during the last semester and some of the boys have fallen victims—(Vita and Wimmer). It is hard to tell who is to be pitied the "Catch" or the "Catcher."

Bloomenstiel thinks he can furnish the door-knobs for all who contemplate building this Spring.

Watch for the new enamel which will appear on the market in a short time. Thompson will explain its advantages to you.

If you want to know anything about gold or porcelain inlays, ask Tym. He is anxious to tell you.

Shaffer and Mortenson have nothing to do now but extractions. Short and bloody work, but just to their liking.

Plummer is going to get a "ferret" or "bloodhound" to keep track of his bridges. Twice he has lost them by "floods."

Cree has resigned his position as "janitor" and thinks he is lucky to be alive.

The flashiest thing around our place is the '06 Class pin.

All of the Seniors are working hard getting ready for both the finals and State Board examinations.

"Our hall-room boys" have dissolved partnership.

Since the West-Side nurses have been looking after Marsh, he seems much "better."

Rockfellow must be home at six o'clock—Don't ask why.

JUNIOR NOTES.

By the Tubby Lockwood method, fistulus abscesses can be cured in five minutes.

It is a known fact that Frey can make a crown in three weeks time, providing he isn't interrupted. Cement fillings are another of this promising young Dentist's specialties.

In heaven there is no parting—The same rule holds good with Driver's head.

Without Mrs. Thomsen and Murphy, the Junior class would be the same as a home without a mother.

Singer the noble Singer the brave,
Singer the orthodontia specialist is always worthy of
praise.

When Pat Foley fails, there is no use in crying,
But Singer insists and he keeps on trying—
At last for assistance to Ben Cronk he doth wonder,
And over his case these two noble heads ponder.
At last a new method they determine to try,
And so, with the gloves to the smoking room fly—
But all that Ben did (It may be a sin)
Was to hit noble Singer a punch on the chin.
Singer says it's not easy to regulate teeth—
But bleaching the hair is as easy as grease,
Wheeler occasionally makes a flying trip home to exercise the bay mare.

SCHOOL OF PHARMACY. OF THE UNIVERSITY OF ILLINOIS.

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BOTANICAL EXHIBITS OF PHARMACEUTICAL INTEREST AT THE FIELD MUSEUM.

W. B. DAY.

It would be altogether superfluous for me to attempt any general description of this noted museum, and quite beyond the limits of this article to endeavor to recount its myriad of interesting and instructive features. I shall therefore briefly mention those exhibits which are of special interest to the pharmaceutical student. The botanical exhibits are to be found in the galleries of the museum, and are arranged according to the families of plants from which they are derived, which facilitates their study and largely avoids duplication.

The displays are, of course, under glass but arranged upon a black background, which shows them to excellent advantage, while labels and placards are liberally used.

LINACEAE: A number of cases devoted to the products of the flax, *Linum Usatissimnm*; linseed, raw and boiled oils; oil cake; flax fiber products; old-fashioned looms and spinning wheels; photographs of the old and of the modern

methods of making linen; specimens of linen cloths and laces.

PALMACEAE: Cocoanut, *Cocos Nucifera*, model of the fruit, specimens of the expressed oil (*Oleum Cocois*), manufactures of the husk (coir) including coarse textiles, ropes and ship cables, polished sections of the wood (porcupine wood). Saw Palmetto, *Sabal Serrulata*, photographs of the palmetto "scrub" (groves); specimens of the fruit (now official); coarse textiles and other manufactures of the fiber, scrubbing brushes, mats, etc. Cabbage Palmetto; *Sabal Palmetto* and products. Areca nuts from *Areca Catechu*. Vegetable ivory the seed of *Phytelphas macrocarpa*.

PINACEAE: A most interesting exhibit is that showing the old process of "boxing" the Long-leaved Pine to obtain turpentine. Six complete sections of the trunk of the tree each about eight feet in height and showing the appearance of the "boxed" tree at each successive season until the yield has diminished so greatly that the collection becomes unprofitable and the tree is used for timber. The new method of boxing whereby a much smaller and shallower incision is made and the turpentine collected in a clay cup or pot, which has the advantage of not destroying the life of the tree. Specimens of turpentine of many kinds and from various parts of the world, resin of the different grades and oil of turpentine are shown, together with the pine fiber mats and brushes, pine nuts (used as food), and pine wood products, papier mache, wood pulp and wood pulp papers.

ZINGIBERACEAE: In the case allotted to this family is to be found an exhibit of the various grades and commercial kinds of ginger, cardamoms, turmeric and the starches of maranta and canna.

MORACEAE: Samples of figs showing various methods of packing are exhibited, also specimens of hops, Lupulin. Cannabis Indica and textiles and twine from hemp fibre: Mulberry, fustic, bread fruit, India rubber from *Ficus elastica* and from *Castilloa elastica* are exhibited.

JUGLANDACEAE: An interesting collection of the valu-

able food nuts of this family; the walnut, butternut, hickory and pecan are shown.

AMARYLLIDACEAE: The products of ixtle fiber (*Agave heteracantha*) also mescal, an intoxicating drink distilled from the fermented juice of *Agave americana*.

GRAMINACEAE: The economic importance of this family justifies the large amount of space it occupies in the collection. Sugar is represented by specimens showing the different steps in its manufacture and purifications and the crude sugars employed by native American tribes are shown. Corn and its products fill several cases; interesting exhibits are shown of the manufactures from corn cobs, stalks and husks. Cereals and cereal products.

MALVACEAE: Three large cases are devoted to Cotton; the various steps of the process of ginning with samples of the fiber in the different stages of separation from the seed and from foreign bodies. The preparation of purified cotton, specimens showing the utilization of cotton fibers for various economic uses, thread, textiles, celluloid, etc. are interesting features. Cotton seed oils, oil cake and cotton oil soaps are shown.

THEACEAE: A very complete exhibit of the various commercial kinds of Tea is shown. Another case is devoted to the Mate or Paraguay Tea (family, *Ilicineae*).

RUBIACEAE: A large number of specimens of coffee, representing the various commercial grades; coffee substitutes, cereal coffee, acorn coffee, etc. coffee adulterants; roasted chicory; factitious coffee; coffee extracts.

LEGUMINOSAE: A large collection of the important edible varieties of the common bean; the various and important drugs of this great family, including *Acacia*, *Cassia Fistula*, *Senna*, *Tamarind*, *Copaiba*, *Balsams Peru* and *Tolu*, *Tragacanth*, *Cutch*. *Kino* and *Calabar bean*. A very interesting collection of commercial licorice roots and extracts. Cowage, Tenka bean, St. John's bread, Red Saunders, Logwood and Indigo are also shown. A small case is devoted entirely to the peanut and its products.

LAURACEAE: Ceylon, Saigon and *Cassia cinnamon*

barks are shown, together with their essential oils. Sassafras bark and pith, oil of sassafras, camphor, oil of camphor and safrol (from oil of camphor). Several charts showing the manufacture of camphor are of special interest.

ANACARDIACEAE: Products from the genus *Rhus*, especially Japanese lacquer (*Rhus Vernicifera*), Japanese and Chinese waxes, sumach bark, Japanese and Chinese galls, cashew nuts, pistachio nuts, mastiche, Chian turpentine.

FAGACEAE: Chiefly devoted to cork and cork products. An excellent example of cork peeling is shown in the form of a young cork tree with three branches which have been carefully decorticated and the cork put together again, to reproduce the form of the tree. Cork products, packing paper, bath mats, linoleum, insulators and life preservers.

COMPOSITAE: Rubber from *Parthenium incanum* is shown, also pressed herbs (an exhibit of doubtful value), chicory, dandelion, etc.

Among the miscellaneous exhibits is one of gums and resins which includes several substances of medicinal and many economic value: button lac, stick lac and the various shellacs; dammar, copal, sandarac and other varnish resins: chicle, para rubber, gutta percha, gum arabic and mesquite gum.

An exhibit entitled "Peculiar Foods" is interesting, showing the odd and not always attractive foods of many peoples. Among them we note pine nuts, cashew nuts, cassava cakes, Jamaica flowers (from *Hibiscus sardariffa*, used as a refrigerant), Chinese gum nut (from *Nephelum* litchi and having a black prune like pulp, a large seed and papery shell). The materials used in betel chewing are shown. Also an Indian curry powder of 39 ingredients.

ALUMNI NOTES.

The annual meeting of the Alumni Association of the University of Illinois School of Pharmacy (Chicago College

of Pharmacy) was held at the rooms of the Hamilton Club, Chicago, on the evening of Thursday, March 29th.

Reports of the officers were presented. The secretary's report showed an increase of 28 members during the year and a loss through death of 4 members.

The treasurer's report shows a balance on hand of \$345.18.

The report of the historian, Miss Charlotte E. Stimson, evoked considerable applause, and it was strongly recommended that the historical work be continued so that a complete history of the college and the Alumni Association might be ready for publication on the occasion of the semi-centennial of the college in 1909.

Election of officers for the ensuing year resulted as follows:

President—Dr. A. W. Baer, '85.

Vice President—T. I. Scheips, '05.

Secretary—A. H. Clark, '04.

Treasurer—Paul Rudnick, '93.

Historian—Charlotte E. Stimson, '00.

Executive Committee—E. N. Gathercoal, '95; M. A. Sheblessy, '03; W. B. Day, '92; L. A. Dickhut, '05; A. D. Thorburn, '94; L. I. Schreiner, '96.

A committee of arrangements for the annual banquet was appointed, and it was decided that the banquet should be held at the Hamilton Club on the evening of Commencement Day, Thursday, April 26th.

Nathan Zamentowsky, '03, has bought the Trimen pharmacy, 1423 Michigan Ave.

Frank E. Swartz, '01, is managing the Central Drug Co., Salt Lake City, Utah.

G. J. Kappus, '98, and J. M. Kappus, '03, have opened a new drug store at California and Milwaukee Aves., Chicago.

SENIOR NOTES.

Wonder why Robinson seems to have taken so much interest in the Central Drug Co? Don't think it could be the cashiers that are drawing John's attention down there. Wonder what it really is?

It is really too bad that some of our boys should miss the Royal Tailoresses as they do.

Taylor stole a march on us and was married. Lee had kept this a secret and on Friday night skipped home and at 8 o'clock became a benedict. Not until a bulletin was posted on the board by one of Lee's many friends, who happened to get in on the ground floor, did the class know of his marriage. During the first hour the next morning all that could be heard was shouts of "Three cheers for Taylor."

Taylor has accepted a responsible position with a firm in Peoria, and has already prepared a cozy little home for himself and bride.

The class joins in to congratulate Lee on his good fortune.

This, however, is only the beginning of the many weddings, which will take place in the near future. We understand that Holland, Bucklin and H. J. Krueger will follow in Taylor's footsteps.

In order to give everyone a chance to witness the wrestling match between Murray, the terrible Greek, and Laack, the terrible Swede, a stage has been arranged in which this wrestling match will be the main feature. As a curtain raiser, matches have been arranged including

Haeseler vs. Cropp.

Holland vs. Beckett.

Mrazek vs. Zukowski.

The following were successful at the recent examinations of the State Board: Leon Fox, E. E. Grebel and G. E. Hoffmann, as registered pharmacists, and Allen Beckett as assistant pharmacist.

THE COMMENCEMENT.

The forty-sixth commencement of the School of Pharmacy will be held at Steinway Hall, 17 E. Van Buren street, Thursday, April 26th. The exercises will begin at 2:00 P. M. President James will confer the degrees on about forty-five candidates. The principal address will be made by Dr. Edward Kremers, of the University of Wisconsin. The class speakers will be Albert G. Ackermann, salutatorian, and Claude E. Tilton, valedictorian.

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MEDICAL DEPARTMENT OF THE
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CHICAGO.

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NO 5.

PHARMACOPOEIAL SUBSTANCES, USES AND DOSES.

BY BERNARD FANTUS, M. D.

Professor of Materia Medica and Therapeutics, Medical Department
University of Illinois.

Pyrogallol: Uses—Irritant, antiseptic.

Pyroxylinum: Prep.—Collodia.

Quassia. Uses—Bitter stomachic. Dose, 0,50 Gm.

Prep.—1. Extractum quassiae. Dose; 0,065 Gm.

2. Fluidextratum quassiae. Dose, 0,50 Cc.

3. Tinctura quassiae. 20 per cent. Dose, 2,00 Cc.

Quercus: Uses—Astringent. Dose, 1 Gm.

Prep.—Fluidextractum quercus. Dose, 1 Cc.

Quillaja: Uses—Emulsifyer, stimulant expectorant.

Prep.—1 Fluidextractum quillajae. Dose, 0,2 Cc.

2. Tinctura quillajae: 20 per cent.

Quinina, Uses—Antimalarial; bitter tonic; antipyretic;
ecbolic. Dose, 0,25 Gm.

Prep.—Oleatum quininae, 25 per cent.

Quininae Bisulphas: Uses—See quinina. Dose, 0,25 Gm.

Quininae Hydrobromidum: Uses—See quinina. Dose,
0,25 Gm.

Quininae Salicylas: Uses—See quinina. Dose, 0,25 Gm.

Quininæ Sulphas. Uses—See quina. Dose, 0,25 Gm.

Resina: Uses—Antiseptic; mildly irritant; adhesive.

Prep.—1. Ceratum resinæ. 35 per cent.

2. Ceratum resinæ compositum. 22,5 per cent.

Resorcinol: Uses—Antiseptic, antipruritic. Dose, 0,125 Gm.

Rhamnus Purshiana: Uses—Tonic laxative; stomachic. Dose, 1 Gm.

Prep.—1. Extractum rhamni purshianæ. Dose, 0,25 Gm.

2. Fluidextractum rhamni purshianæ. Dose, 1 Cc.

3. Fluidextractum rhamni purshianæ aromaticum. Dose, 1 Cc.

Rheum: Uses—Purgative; astringent; stomachic. Dose, 1 Gm.

Prep.—1. Extractum rhei. Dose, 1 Gm.

2. Fluidextractum rhei. Dose, 1 Cc.

3. Tinctura rhei. 20 per cent. Dose, 4 Cc.

4. Syrupus rhei. Fluidext. 10 per cent; contains potassium carbonate 0,1 per cent. Dose, 8 Cc.

5. Tinctura rhei aromatica. 20 per cent. Dose 2 Cc.

6. Syrupus rhei aromaticus. Arom. tinct. 15 per cent; potassium carbonate, 0,1 per cent. Dose, 8 Cc.

7. Mistura rhei et sodæ. Fluidext, 1,5 per cent. Dose, 4 Cc.

8. Pulvis rhei compositus. 25 per cent. Dose, 2 Gm.

9. Pilulæ rhei compositæ, 0,13 Gm. in each: Dose, 2 pills.

Rhus Glabra: Uses—Astringent, refrigerant. Dose, 1 Gm.

Prep.—Fluidextractum rhois glabrae. Dose, 1 Cc.

Rosa Gallica: Uses—Flavoring agent.

Prep.—1. Syrupus rosae. 12.5 per cent.

2. Mel rosae. 12 per cent, Dose, 4 Cc.

3. Fluidextractum rosae. Dose, 2 Cc.

4. *Confectio rosae*. 8 per cent.

Oleum rosae: Prep.—1. *Aqua rosae fortior*. Dose, 8 Cc.

2. *Aqua rosae*. Dose, 16 Cc.

3. *Unguentum aquae rosae*. (Syn.—Cold cream).

Rubus: Uses—Astringent, tonic. Dose, 1 Gm.

Prep.—1. *Fluidextractum rubi*. Dose, 1 Cc.

2. *Syrupus rubi*. *Fluidextract*, 25 per cent, Dose, 4 Cc.

Sabal: Uses—Diuretic; expectorant; sedative. Dose, 1 Gm.

Sabina: Uses—Counter-irritant; emmenagogue. Dose, 0,5 Gm.

Prep.—*Fluidextractum sabinae*. Dose, 0,3 Cc.

Saccharum: Uses—Sweetening and preservative agent; and nutritive.

Prep.—*Syrupus*. 85 per cent.

Saccharum Lactis: Uses—Diluent in pharmacy; nutritive, diuretic.

Safrolum: Uses—Same as oil of sassafras. Dose, 0,3 Cc.

Salicinum: Uses—Stomachic. antirheumatic. Dose, 1 Gm.

Salvia: Uses—Stimulant, astringent. Dose, 2 Gm.

Sanguinaria: Uses—Stimulant expectorant. Dose, 0,125 Gm.

Prep.—1. *Fluidextractum sanguinariae*. Dose, 0,1 Cc.

2. *Tinctura sanguinariae*. 10 per cent, Dose, 1 Cc.

Santalum Rubrum: Uses—Coloring agent.

Santonica: Uses—Anthelmintic against round worm; used mainly in form of its active principle. See *santoninum*.

Santoninum: Uses—Anthelmintic against round worms. Dose, 0,065 Gm.

Prep.—*Trochisci santonini*. 0,03 Gm.

Sapo: Uses—Detergent; antacid; local stimulant.

Prep.—1. *Emplastrum saponis*. 10 per cent.

2. *Linimentum saponis*. 6 per cent.

Sapo Mollis: Uses—Detergent; antacid, local stimulant.

Prep.—*Linimentum saponis mollis*. 65 per cent.

Sarsaparilla: Uses—Alterative (?). Dose, 2 Gm.

Prep.—1. *Fluidextractum sarsaparillae*. Dose, 2, Cc.

2. *Fluidextractum sarsaparillae compositum*.

Dose, 2 Cc.

3. *Syrupus sarsaparillae compositus*. *Fluidextract*, 20 per cent, Dose, 16 Cc.

Sassafras: Uses—Mainly as flavoring agent. Dose, 8 Gm.

Sassafras Medulla: Uses—Demulcent.

Prep.—*Mucilago sassafras medullae*. 2 per cent, Dose, 16 Cc.

Scammonium: Uses—Drastic cathartic. Dose, 0,25 Gm.

Prep.—*Resina scammonii*. Dose, 0,20 Gm.

Scilla: Uses—Expectorant; diuretic. Dose, 0,125 Gm.

Prep.—1. *Fluidextractum scillae*. Dose, 0,1 Cc.

2. *Tinctura scillae*. 10 per cent, Dose, 1 Cc.

3. *Acetum scillae*. 10 per cent, Dose, 1 Cc.

4. *Syrupus scillae*. *Vinegar of squill*, 45 per cent,

Dose, 2 Cc.

5. *Syrupus scillae compositus*. *Fluidextract*, 8 per cent, Dose, 2 Cc.

Scoparius: Uses—Diuretic. Dose, 1 Gm.

Scopola: Uses—Like those of *hyoscyamus*. Dose, 0,045 Gm.

Prep.—1. *Extractum scopolae*. Dose, 0,01 Gm.

2. *Fluidextractum scopolae*. Dose, 0,05 Cc.

Scopolaminae Hydrobromidum: Uses and adm.—See *hyoscinae hydrobromidum*. Dose, 0,0005 Gm.

Scutellaria: Uses—Tonic (?). Dose, 1 Gm.

Prep.—*Fluidextractum scutellariae*. Dose, 1 Cc.

Senega: Uses—Stimulant expectorant, emetic. Dose, 1 Gm.

Prep.—1. *Fluidextractum senegae*. Dose, 1 Cc.

2. *Syrupus senegae*. *Fluidextract*, 20 per cent, Dose, 4 Cc.

Senna: Uses—Purgative. Dose, 4 Gm.

Prep.—1. Fluidextractum sennae. Dose, 2 Cc.

2. Syrupus sennae. 25 per cent of fluidext.
Dose, 4 Cc.

3. Infusum sennae compositum. 6 per cent,
Dose, 120 Cc.

4. Pulvis glycyrrhizae compositus. 18 per cent,
Dose, 4 Gm.

5. Confectio sennae. 10 per cent, Dose, 4 Gm.

Serpentaria: Uses—Bitter stomachic. Dose, 1 Gm.

Prep.—Fluidextractum serpentariae. Dose, 1 Cc.

Serum Antidiphtheriticum: Uses—Prophylactic and
curative in diphtheria. Dose, 3000 units. Immunizing Dose
for well persons, 500 units.

Sevum Praeparatum: Uses—Emollient.

Sinapis Alba: Uses—Condiment; emetic in dose of 8
Gm.

Sinapis Nigra: Uses—Rubefacient; condiment; emetic
in dose of 8 Gm.

Prep.—Charta sinapis.

Sodii Acetas: Uses—Diuretic. Dose, 1 Gm.

Sodii Arsenas: Uses—Tonic, alterative, hematinic
Dose, 0,005 Gm.

Prep.—Sodii arsenas exsiccatus. Dose, 0,003 Gm.

Prep.—Liquor sodii arsenatis. 1 per cent, Dose, 0,2 Cc.

Sodii Benzoas: Uses—Antiseptic, expectorant, diuretic.
Dose, 1 Gm.

Sodii Bicarbonas: Uses—Antacid. Dose, 1 Gm.

Prep.—Trochisci sodii bicarbonatis each 0,18 Gm.

Sodii Bisulphis: Uses—Antiseptic. Dose, 0,50 Gm.

Sodii Boras: Uses—Mild antiseptic. Dose, 0,50 Gm.

Sodii Bromidum: Uses—Sedative nervine. Dose, 1 Gm.

Sodii Carbonas Monohydratus: Uses—Antacid; solvent.
Dose, 0,25 Gm.

Sodii Chloridum: Uses—Local stimulant; condiment;
emetic in dose of 16 Gm.

Sodii Hydroxidum: Prep.—Liquor sodii hydroxidi. 5
per cent, Dose, 1 Cc.

Sodii Hypophosphis: Uses—Tonic. Dose, 1 Gm.

Prep.—Syrupus hypophosphitum. 1.5 per cent, Dose, 8 Cc.

Syrupus hypophosphitum compositus. 1.75 per cent, Dose, 8 Cc.

Sodii Iodidum: Uses—Alterative. Dose, 0,50 Gm.

Sodii Nitras: Uses—Diuretic. Dose, 1 Gm.

Sodii Nitris—Uses—Vaso-dilator. Dose, 0,065 Gm.

Sodii Phenolsulphonas: Uses—Antiseptic. Dose, 0,25 Gm.

Sodii Phosphas: Uses—Hydragogue purgative and cholagogue. Dose, 2 Gm.

Prep.—1. Sodii phosphas exsiccatus. More than twice as strong as the crystallized salt. Dose, 1 Gm.

2. Sodii phosphas effervescens. 20 per cent, Dose, 8 Gm.

3. Liquor sodii phosphatis compositus. This solution is sodium phosphate liquefied in its water of crystallization by means of citric acid and sodium nitrate; so that 1 Cc. represents 1 Gm. of the crystallized salt. Dose, 8 Cc.

Sodii Pyrophosphas: Uses—Mainly in preparation of ferric pyrophosphate. Dose, 2 Gm.

Sodii Salicylas: Uses—Antiseptic; cholagogue; anti-rheumatic. Dose, 1 Gm.

Sodii Sulphas: Uses—Hydragogue purgative. Dose 16 Gm.

Sodii Sulphis: Uses—Antiseptic. Dose, 1 Gm.

Sodii Thiosulphas: Uses—Antiseptic. Dose, 1 Gm.

Sparteinae Sulphas: Uses—In heart disease, especially functional. Dose, 0,01 Gm.

Spigelia. Uses—Anthelmintic against round worm. Dose, 4 Gm.

Prep.—Fluidextractum spigeliae. Dose, 4 Cc.

Spiritus Aetheris Nitrosi: Uses—Diaphoretic; diuretic; antispasmodic. Dose, 2 Cc.

Spiritus Glycerylis Nitratis: Uses—Vaso-dilator. Dose 0,05 Cc.

Staphisagria: Uses—Parasiticide. Dose, 0,065 Gm.

Prep.—Fluidextractum staphisagriae. Dose, 0,05 Cc.

Stillingia: Uses—Alterative. Dose, 2 Gm.

Prep.—Fluidextractum stillingiae. Dose, 2 Cc.

Stramonium: Uses—Like those of belladonna. (q. v.)
Dose, 0,065 Gm.

Prep.—1. Extractum stramonii. Dose, 0,01 Gm.

2. Fluidextractum stramonii. Dose, 0,05 Cc.

3. Tinctura stramonii. 10 per cent, Dose, 0,50
Cc.

4. Unguentum stramonii. Extract, 10 per cent.

Strontii Bromidum: Uses—Sedative nervine. Dose, 1
Gm.

Strontii Iodidum: Uses—Alterative. Dose, 0,50 Gm.

Strontii Salicylas: Uses—Antiseptic; cholagogue; an-
tirheumatic. Dose, 1 Gm.

Strophanthinum: Uses—Heart stimulant. Dose, 0,0003
Gm.

Strophanthus: Uses—Heart stimulant. Dose, 0,065 Gm.

Prep.—Tinctura strophanthi. 10 per cent, Dose, 0,5 Cc.

Strychnina: Uses—See strychninae sulphas. Dose,
0,001 Gm.

Strychninae Nitras: Uses and Adm.—See strychninae
sulphas. Dose, 0,001 Gm.

Strychninae Sulphas: Uses—Circulatory stimulant, re-
spiratory stimulant, excito motor, stomachic. Dose, 0,001
Gm.

Styrax: Uses—The same as those of the balsams of tolu
and Peru. Dose, 1 Gm.

Sulphonethylmethanum: Uses—Hypnotic. Dose, 1 Gm,

Sulphonmethanum: Uses—Hypnotic. Dose, 1 Gm.

Sulphur Sublimatum: Uses—See washed sulphur. Dose,
4 Gm.

Sulphur Lotum: Uses—Irritant, antiparasitic, laxative,
alterative. Dose, 4 Gm.

Prep—Unguentum sulphuris. 15 per cent.

Sulphur Praecipitatum: Uses—See washed sulphur.
Dose, 4 Gm.

Sulphuris Iolidum: Uses—Skin irritant, antiseptic, al-
terative.

Sumbul: Uses—Antispasmodic in hysteria. Dose, 2 Gm.

Prep.—1. Extractum sumbul. Dose, 0,25 Gm.

2. Fluidextractum sumbul. Dose, 2 Cc.

Talcum: Uses—Simple dusting powder.

Prep.—Talcum purificatum. Purified talc is used in the preparation of some of the aromatic waters.

Tamarindus: Uses—Laxative; refrigerant. Dose, 16 Gm.

Taraxacum: Uses—Stomachic; mildly laxative; diuretic. Dose. 8 Gm.

Prep.—1. Extractum taraxaci. Dose, 1 Gm.

2. Fluidextractum taraxaci. Dose, 8 Cc.

Terebenum: Uses—Expectorant. diuretic. Dose, 0,5 Cc.

Terebinthina Canadensis: Uses—Same as oil of turpentine.

Terpini Hydras: Uses—Expectorant and diuretic. Dose, 0,125 Gm.

Thymol: Uses—Antiseptic, anthelmintic. Dose, 0,125 Gm.

Thymolis Iodidum: Uses—Antiseptic dusting powder.

Tragacantha: Uses—Demulcent; excipient; suspending agent.

Prep.—Mulcilago tragacanthae. 6 per cent, Dose, 16 Cc.

Triticum: Uses—Demulcent, diuretic (?). Dose, 8 Gm.

Prep.—Fluidextractum tritici. Dose, 8 Cc.

Ulmus: Uses—Demulcent.

Prep.—Mulcilago ulmi. 6 per cent, Dose, 16 Cc.

Uva Ursi. Uses—Diuretic; urinary antiseptic; astringent. Dose, 2 Gm.

Prep.—Fluidextractum uvae ursi. Dose, 2 Cc.

Valeriana: Uses—Antispasmodic in hysteria, nervousness. Dose, 2 Gm.

Prep.—1. Fluidextractum valerianae. Dose, 2 Cc.

2. Tinctura valerianae. 20 per cent, Dose, 4 Cc.

3. Tinctura valerianae ammoniata. 20 per cent

Dose, 2 Cc.

Vanilla: Uses—Flavoring agent.

Prep.—Tinctura vanillae. 10 per cent, Dose, 1 Gm.

Vanillinum: Uses—Flavoring agent. Dose, 0,03 Gm.

Veratrina: Uses—Local analgesic. Dose, 0,002 Gm.

Prep.—1. Oleatum veratrinae. 2 per cent.

2. Unguentum veratrinae. 4 per cent.

Veratrum: Uses—Circulatory depressant. Dose, 0,125 Gm.

Prep.—1. Fluidextractum veratri. Dose, 0,1 Cc.

2. Tinctura veratri. 10 per cent, Dose, 1 Cc.

Viburnum Opulus: Uses—Like viburnum prunifolium.

See below. Dose. 2 Gm.

Prep.—Fluidextractum vibruni opuli. Dose, 2 Cc.

Viburnum Prunifolium: Uses—Antispasmodic, especially in uterine colic. Dose, 2 Gm.

Prep.—Fluidextractum viburni prunifolii. Dose, 2 Cc.

Xanthoxylum: Uses—Alterative. Dose, 2 Gm.

Prep.—Fluidextractum xanthoxyli. Dose, 2 Cc.

Zea: Uses—Diuretic.

Zinci Acetas: Uses—Astringent. Dose, 0,125 Gm.

Zinci Bromidum: Uses—Sedative nervine. Dose, 0,125 Gm.

Zinci Carbonas Praecipitatus: Uses—Astringent dusting powder.

Zinci Chloridum: Uses—Caustic.

Prep.—Liquor zinci chloridi. 50 per cent.

Zinci Iodidum: Uses—Alterative. Dose, 0,065 Gm

Zinci Oxidum: Uses—Astringent dusting powder. Dose, 0,25 Gm.

Prep.—Unguentum zinci oxidi 20 per cent.

Zinci Phenolsulphonas: Uses—Astringent; antiseptic. Dose, 0,125 Gm.

Zinci Stearas: Uses—Protectant.

Prep.—Unguentum zinci stearatis. 50 per cent.

Zinci Sulphas: Uses—Astringent; emetic. Dose, 1 Gm. (as emetic).

Zinci Valeras: Uses—Same as valerian. Dose, 0,125 Gm.

Zingiber: Uses—Stomachic; carminative; flavoring agent. Dose, 1 Gm.

Prep.—1. Oleoresina Zingiberis. Dose, 0,03 Gm.

2. Fluidextractum zingiberis. Dose, 1 Cc.
3. Tinctura zingiberis. 20 per cent, Dose, 2 Cc.
4. Syrupus zingiberis. 3 per cent, Dose, 16 Cc.

TREATMENT OF FRACTURES OF THE FEMUR AT THE COOK COUNTY HOSPITAL*

BY CHARLES DAVISON.

Professor of Surgery and Clinical Surgery, University of Illinois; At-
tending Surgeon, Cook County Hospital and the West Side
Hospital of Chicago; Interne Cook County
Hospital, 1884.

For clinical purposes, fracture of the femur may be divided into four groups.

First. Fractures above the small trochanter. This includes fractures of the head, neck, and greater trochanter.

Second. Fractures immediately below the lesser trochanter, where the lower part of the small upper fragment is displaced forward and outward and rotated outward by the action of the iliopsoas muscle.

Third. Supracondylar fractures, in which the small upper end of the lower fragment is tilted backward by the action of the calf muscles.

Fourth. Fractures of the shaft of the femur that can be reduced by manipulation and direct extension.

First. Fractures above the lesser trochanter may be impacted, and when so held, it is of vital importance that the impaction should be allowed to remain intact.

No unnecessary examination, no attempt to find abnormal mobility or crepitus should be made, as such manipulation would endanger the separation of the impacted fragments.

The diagnosis of impaction must be made from the symptoms and deformity.

Fractures of this part of the femur have three cardinal symptoms, by which the diagnosis should be made:

1. *Loss of function* of the whole extremity.
2. *External rotation* of the leg and foot.*

*Reprint from Surgery Gynecology and Obstetrics.

3. *Shortening*, located at the neck by Bryant's iliofemoral triangle or Nelaton's line.

If the shortening is less than one inch, it is fair to presume that the fracture is impacted, but if the shortening is more than one inch, that the fracture is not impacted.

When possible, the diagnosis should be verified by the fluoroscope.

Impacted fractures of the femur above the lesser trochanter should be treated by simple immobilization in the impacted position, without attempting to remedy the deformity.

The simplest form of immobilization is the body plaster cast.

The body cast can be made strong and reasonably light by the incorporation of basswood strips between the layers of plaster at the places where strength is needed.

Unimpacted fractures of the same region are well treated by the Liston splint.

The Liston splint of the proper size for an adult man consists of a board four feet long, four inches wide, and seven eighths inches thick, to the lower end of which a crosspiece twenty inches long is securely fastened. A series of holes in pairs are bored at the upper end, and in the crosspiece for the attachment of the extension bands. Strips of adhesive plaster are attached to the leg, similar to Buck's extension, except the plaster below the foot on each side is rolled into a rope for attachment to the crosspiece of the splint.

The splint, carefully padded to fit the irregularities of the leg and body, is applied to the injured member.

It is fastened in position at the ankle, knee, and body by temporary bandages.

The extension adhesive plaster strip cords are tied through such holes in the crosspiece as will give the foot and leg the proper amount of rotation.

The foot must not touch the crosspiece.

A well-padded perineal band is placed in position and the ends passed through that pair of holes, in the upper

part of the splint, which will give good direction for traction with the perineal band.

The patient anæsthetised, traction is made by an assistant on the crosspiece of the splint, and when the limb is stretched to the same length as the normal leg, as shown by actual measurement, the perineal band is tied to the upper part of the splint holding the fractured bone in extension.

The splint is carefully bandaged to the limb and body with starch bandages, leaving the anterior superior spine and the internal malleolus exposed for daily measurements, and tightening the extension when necessary.

This makes the extension entirely within the splint, and the patient can be moved about and changed without disturbing the extension and interfering with the partly healed union.

Second. In fractures immediately below the lesser trochanter, the lower end of the upper fragment is displaced by the action of the iliopsoas muscle which is attached to the lesser trochanter.

The upper fragment is rotated outward.

The lower end of the upper fragment is flexed and abducted.

The action of the muscle is so powerful and the upper fragment so short, that the fragment cannot be replaced and held in position by any splint.

The usual methods of treatment by long splints and extension always give union with angular deformity and faulty rotation.

The indication for treatment is to place the long lower fragment in such a position that its axis will be in line with that of the upper fragment, and with the same amount of external rotation.

This can be accomplished by suspension of the leg in the proper position in a frame by the Beely anterior molded plaster splint and Buck's extension.

A Buck's extension is put on the leg, the knee is slightly flexed, and a splint is molded to the anterior part of the

leg and thigh, with wicking soaked in plaster cream and secured with a roller bandage.

A series of rings are incorporated into the splint for suspension of the limb.

The rings should be in such a position as to get the necessary rotation of the lower fragment to match the faulty rotation of the small upper fragment when the leg is suspended.

The leg is suspended sufficiently high to equal the flexion of the small upper fragment.

The frame is attached to the outer part of the foot of the bed in such a position that the lower fragment will be in the axis of abduction of the small upper fragment.

Sufficient weight on the Buck's extension will overcome the shortening.

When the immobilization is completed, the reduction of the fracture should be verified by the fluoroscope.

Third. Supracondylar fractures are best treated by the double inclined plane.

The small lower fragment is flexed upon the leg by the action of the gastrocnemius muscle.

To reduce the fracture, the leg must be flexed upon the thigh until the lower fragment takes the same axis as the upper fragment.

The limb should be placed well padded in the double inclined plane and the angle of the splint changed until the fragments are in the same line.

The weight of the body pulling against the fixed flexed knee will produce sufficient extension.

To locate the proper angle, reduction should be performed with the aid of the fluoroscope.

Fourth. Fractures of the shaft that can be reduced by direct extension may be treated by the Liston splint, applied in the same manner as for impacted fractures of the neck of the femur, with the addition of a small posterior coaptation splint to prevent sagging of the ends of the fragments.

In children this class of fracture is more easily kept

clean by the use of Schede's vertical suspension. Sufficient weight should be applied to lift barely the nates, so that a bedpan can easily be used without disturbing the fragments.

The patient with any fracture of the femur should be kept quiet in bed until all inflammatory reaction from the injury subsides, and until union has so far advanced that the ends of the bones will remain in opposition without extension.

After that time the patient can be up on crutches in a body cast with a high heel on the opposite foot.

Or, much better, the patient may be up and about during convalescence, supported by an ambulatory splint with crutches or only a cane.

Sometimes, in old persons, it becomes necessary to get them out of bed at once, to avoid death from nervous collapse or from hypostatic pneumonia.

Under any circumstances when it becomes necessary to get the patient up at once, an ambulatory splint may be used.

An ambulatory splint can be used in bed in place of the Liston splint, filling the same indications. Extension is obtained by attachment of an ordinary shoe to the footpiece, and counter-extension by a perineal band. Good results are obtained only by the intelligent, careful, painstaking application of the means at command, whether it be an old board and a broken saw, or the paraphernalia of a metropolitan hospital.

CHEAP AT DOUBLE THE PRICE.

A nickel, a five-cent piece, five pennies, a half dime, or the twentieth part of a silver dollar, each day, pays for residence telephone service. Safety, comfort, convenience, economy, happiness and sociability results from its use. Why not have a phone in your home. Think it over.—Chicago Telephone Company.

SENIOR PROPHECY.

As the train pulled out of the depot the next day and I was leaving the city of Chicago, I felt a pang of regret as the place had been both a school and a play-house for all of us.

I had provided myself with some good books and a few medical journals to read on the way as I would not stop again till I reached Denver. In one of the journals I came across an article by Wm. J. Cremin from Memphis, Mo., the man who has discovered how to get rid of the *Anopheles* mosquitoes. He says to rub alum on your face and hands and when the mosquito takes a bite it puckers up his buzzer so it can't sting. It sits down in a damp place, tries to dig the pucker loose, catches its death of cold, and dies of pneumonia.

Quite a number of our class are regular contributors to various medical journals, and among the various articles that have been published are the following: "The Pathology of Rabies: The Role of Mast Cells in the Affection," by Harvey Le Roy Smith; "Poisoned by a Nostrum," by Jessie Hattendorf; "Taenia Solium as a Cause of Chorea in Children, its Mode of Propagation and Treatment," by Georgiana M. Dvorak; "Sarcolactic Acid and the Pathology of Eclampsia," by C. E. Hamel; "Blood Plates in Erysipelas and Purpura Hemorrhagica," by Edwin Cutler; "The Doctor's Wife," by Rachel M. Cooper; "Embolic Gangrene of the Lung, or a Complication of Typhoid," by Frank Nee; "Insanity as a Result of Hysterotomy and Oophorectomy," by Helen B. Flynn.

Nothing worth noting took place till we arrived at a little town in Colorado called Prosperity, where our train was detained about four hours on account of an accident on the road ahead of us.

I walked around the place, dropping in several of the stores, and found a thriving, wide awake town. The place seemed to have doctors and drug stores galore. I met a lawyer there who knew Robert A. Davis, and while talking

with him I learned he was the same old R. A. Davis of '06 and that he had worked up an excellent practice in this village.

Walking down the main street my attention was called to a large sign in a gilt frame hanging on the outside of an office door and on it the following:

If in Prosperity you want a doctor to heal,
The first in the block is J. P. O'Neil;
Next below, according to our plan,
Is our railroad doctor Garstang;
Go up the next stairway looking your best.
And you will find within Dr. West;
Then comes the one on which we linger,
The jolly good doctor, Pillinger;
Within the next four walls' inclosure
Is to be found the shrewdest, Hoover;
But if little pills you are stuck on,
At the next door you find Peterson.

Our train was ready to start and at a frightful speed the snorting engine rushed headlong through the valleys and stretching plains till at last she pulled into Denver.

While sitting in the office of the St. James Hotel, leaning back in a comfortable chair some one slabbed me on the shoulder and said. "Hello, Mac, how are you?" Jumping up from my chair I confronted Ralph V. Moore. He drew up a chair and began telling me he was on his way to Arizona where he was superintendent of a large copper mine. He told me that he had practiced for five years and that during that time had laid by a snug sum and with it had purchased his interest in this mine. He expects soon to become a millionaire.

I learned through Mr. Moore that Joseph Rose and R. F. Swartz were overseers in the Chicago Automobile Insane Asylum, where the subjects of that institution may be seen under their beds most of the time tightening imaginary bolts and burs.

Irving W. Parsons, our class poet, has really turned out to be more of a poet than we imagined, his first poem

being related to one of our class—it goes something like this:

Dudley E. Murray had histrionic fire,
To tread the boards was his desire,
An actress learning of his plan,
Engaged him as her leading man.

So he supported her one week,
Then sought his chance his love to speak;
They wedded—then with kindly tact,
She told him that he could not act.

In boiling rath and fuming rage,
He left the lady and the stage;
But still he is in her support,
“Pay alimony,” said the court.

Aloysius Szopinski, after having served two years' interneship as proprietor of the “Hotel Ghetto,” has gone back to his native country, Russia, where he has charge of Czar's household.

Anna F. Reis and Jay Rickets are ophthalmologists to the institution for the blind at Jacksonville, and the restoration of sight to a child born blind is only one of the many testimonials of their skill and ability.

I also learned that Hargus G. Shelly was on the stage, and that he had made a great hit with his song entitled, “On an Automobile Honeymoon.”

In an automobile with darling Jennie Bedeil,
Every Sunday I fly through the park,
And the birds on the wing seem to know as they sing,
That we're out for a merry lark.
Up the riverside drive we just eat them alive,
Reaching Evanston in time for a meal;
Not a jollier pair in the crowd dining there,
Than yours truly and Jennie Bedeil.

CHORUS:

You just auto see me and Jennie ride out in our automobile,
You just auto see all the glances and sly little kisses we steal;

You just auto come to our wedding, its bound to take place
pretty soon—

In a nice new machine, I will go with my queen, on an au-
tomobile honeymoon.

Down to gay Benton Beach, now and then with my peach,
We go scorching along hand in hand,
With my sweet baby mine, boys, it is simply fine,
It's the grandest old game in the land.

Other fellows may float with their girls in a boat,
And some may think that the trolley is fine,
But to wise little me they are all twenty-three,
It's the old bubble wagon for mine.

The last day I was in Denver was one that I think I will always remember. An old man was walking along the street with a sign strapped to his back on which was written in large capital letters the word "Phrenology," and illustrated by a map of a man's head closely shaven and laid off in areas numbering from one to forty-seven. Beneath this illustration there was also a notice informing the people of Denver that Prof. Fast had arrived and would be happy to examine and furnish any one with a chart of their head showing the normal and intellectual endowments at the low price of three dollars. My curiosity was aroused and I immediately had my hair cut and carefully combed, and hastened to present myself and my head to the professor's notice. He was a tall, thin gentleman, dressed in a suit of rusty black, a skull cap on, and a pair of blue goggles. Upon a table lay many little books with yellow covers, several placards, pen and ink. Having explained the object of my visit he placed me in the chair and manipulated my head after the manner of a shampoo and then said that my temperature was lymphatic, nervous, bilious. He then stepped to a shelf, handed me a bottle and said, "One dollar more, please." As this was unexpected I turned to him and requested an explanation. At this he removed his cap and glasses and began to laugh. I at once recognized H. D. Fast. He told me he recognized me as soon as I stepped

in the door and thought he would play a joke on me. He then presented me with a bottle of hair restorer and told me it was his own concoction.

I remained over one day longer to take a drive around where I could get a view of the grand mountains that rise so abruptly and reach such enormous heights. A person who is a lover of romantic scenery can spend any number of days here very pleasantly.

Again I was on board the train and as we were passing through a part of the country that was dry and uninteresting, the passengers sought to while away the time by becoming acquainted with one another. I soon entered into conversation with an elderly couple who sat in front of me. They were from New Jersey and were on their way to Oregon to visit their neice. In a very short time I learned that the neice of this elderly lady and gentleman was Loetta Beamer Bowles. Is your daughter still—, just then a loud knock at my door awakened me and I found that I had been asleep in my chair, but so real did it seem that it was some time before I could dispel it from my mind.

D. D. MACGILLIVRAY.

HAPPINESS.

Are you moved and nicely settled,
In a cozy, pleasant home?
If you wish to find contentment
Get a Chicago Telephone.

PRACTICE OF MEDICINE DEFINED.

The prosecution of quacks and pretenders under our various and comparatively recent medical laws has placed it upon the judiciary to define the practice of medicine as occurring in these laws. As a consequence, many definitions have been promulgated by various judges. The latest and best one we have seen is by Judge Green, of N. Y. It was as follows:

"The practice of medicine is the exercise or performance of any act, by or thru the use of any thing or matter, or by things done, given or applied, whether with or without the use of drugs or medicine, and whether with or without fee therefore, by a person holding himself or herself out as able to cure disease, with a view to relieve, heal or cure, and having for its object the prevention, healing, remedying, cure or alleviation of disease."

Upon this the Philadelphia Ledger comments as follows:

"The person who undertakes to do the work of the doctor, which is the curing of diseases, does not evade responsibility by any trick or method. Whether there be administration of drugs, the laying on of hands, resort to bread pills, baths, dieting, blue glass, incantations or hypnotism, the operation is the practice of medicine, in the spirit of the statute. This statute is for protection of the public health, as well as to guard the credulous invalid from the rapacity of swindlers. Judge Green's view will be accepted as the popular view, not only because it upholds a benign law, but because it is the expression of plain common sense."—Medical World.

STRATAGEM OF McKINLEY.

A year or two after the late President McKinley had begun the practice of law he distinguished himself in a humorous fashion in one of his first successful cases.

As often happens in court, the humor was not merely for the sake of the joke, but for serious purposes.

The case was brought against a surgeon whom the plaintiff charged with having set his leg so bad that it was bowed, McKinley defended the surgeon, and found himself pitted against one of the most brilliant lawyers of the American bar.

The latter brought his client into court and made him expose the injured limb to the jury. It was very crooked, and the case looked bad for the surgeon. But McKidley had both of his eyes open as usual, and fixed them keenly on the man's other leg. As soon as the plaintiff was under cross-examination by him he asked that the other leg should also be bared.

The plaintiff and his council objected vigorously, but unavailing. Then it appeared that the plaintiff's second leg was still more crooked than that which the surgeon had set.

"My client seems to have done better by this man than nature herself did," said McKinley, "and I move that the case be dismissed, with a recommendation to the plaintiff that he have the other leg broken and then set by the surgeon who set the first one."

PROTRACTED SNEEZING.

Have our readers seen cases of protracted sneezing? It is said that a few whiffs of chloroform will stop the sneezing. The same remedy will usually stop protracted hiccups; but here it is best to remove the cause, which is usually irritation due to stomach contents. This cannot be said to protracted sneezing, which is not usually due to reflex irritation, but to direct irritation upon the mucous membrane. We have never seen a case sneezing which gave rise to any anxiety. What has been the observation of our readers?

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COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT

UNIVERSITY OF ILLINOIS.

CHICAGO.

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ALUMNI NOTES.

O. M. Luustrun, 1894, is a candidate for U. S. Senator, from Montana.

Drs. J. M. Edwards, Mankota, Minn.; Chester Brink, Ord, Neb.; F. A. Thayer, Beloit, Wis., and E. C. Hamel, visited P. & S. recently.

Dr. C. W. Carter has moved from Aledo to Batavia, Ill.

Dr. Elwood is assisting Dr. Hatfield.

Dr. W. J. Pinkerton, Eagle River, is going to Bessemer with Drs. Loop and Madagaski.

Dr. F. S. Diller is taking a post-graduate course at P. & S.

Dr. B. E. Webber, '03, and Dr. Julia Strawn. '03, have an office at 827 Marshall Field Bldg.

P. & S. ATHLETICS.

The Base Ball team representing the college this year was defeated at Valparaiso, Ind., by the local team, Saturday, May 12, by a score of 10 to 9. Our boys had the game well in hand and seemed certain to win out by a wide margin, when they unfortunately slipped up and committed a bunch of errors which greatly helped the Hoosiers to clean them. The lineup is as follows: Croft, 3rd b, Swan, c, Conroy, 1st b, Peterson, p, Sher rf, Meyerovitz cf, Phifer lf, Butler and Evans ss and Joyce 2nd b.

The batting of the various members of the team is perfection, they earnestly hit at every ball thrown in their direction and when by hook or crook the bat of one member connected with the ball, the whole team ran, which we believe accounts for the nine runs accumulated by our boys, at least so we were informed by reputable eyewitnesses to the contest.

All being stars in their respective positions it is difficult to single out any one member for comment, but perhaps the bright, particular shining light of this galaxy of stars is Prep. Phifer, who fields his position to perfection (for the opponents). Every time a ball starts out his way Prep. falls down whether from stage fright or sheer inability to stand up no one knows.

Then there is Peterson who as a batter is a wonder, but a rather expensive wonder for in every game played he has hit the balls so far that they never were found, and averages a loss of from 3 to 7 balls each game.

Also Swan, the captain and catcher, as captain O. K., as catcher, punk, one umpire is still in the hospital as a result of Swan's reprehensible habit of sidestepping the ball thrown by the pitcher. But why continue, the others are just as good and space prevents a compilation of their indi-

vidual efforts. But, all joking aside, the team has shown up well this year, have played good consistent ball and their opponents have had their hands full to beat them. They are worthy representatives of a worthy institution and it is only lack of practice which accounts for their poor record.

SENIOR NOTES.

The day of reckoning for the Senior class is now approaching with rapid strides. Judging by the diligent application and the earnestness of purpose which have characterized the class as a whole during the year it would surprise us if a single man met with disappointment when receiving his final report.

We have formed an opinion which would not look well in print regarding the conduct of those members of the class who have refused to pay their class dues. It occurred to us that these delinquents may be saving up the price of a shingle, and we would advise that the executive committee duly consider this mitigation before taking too radical measures in collecting the fees and thereby quenching their professional enthusiasms in its infancy.

It is impossible as yet to ascertain the number of hospital appointments which have been made and will be made later from our class. Indications are, however, that a greater number than of any other previous class will serve internships in this and other cities.

The young ladies of the class have secured internships as follows:

Louise Morrow, New England Hospital for Women and Children, Boston, Mass.

Mrs. Beamer-Bowles, Dunning, Ill.

Rachel Watkins, Belview Sanatorium, Batavia, Ill.

Katharine Stull, Georgiana Dvorak, Annie Ries, Woman's Hospital, Chicago, Ill.

Jessie Hattendorf, Woman's Hospital and Infants Home, Detroit, Mich.

Rebecca Yampolsky, Mary Thompson Hospital, Chicago, Ill.

JUNIOR NOTES.

The event of greatest interest during the past month to the members of the junior class was the annual election of officers for the coming year. The event passed off much more quietly than the former elections held by this class. Mr. Wagner as junior President wielded the gavel and conducted the meeting in a very creditable manner, showing no partiality to any of the candidates for the several offices. A little excitement arose when a tie vote was polled in voting for chairman of the executive committee.

While it is impossible to suit everyone, it must be said that the senior officers possess excellent qualifications for their respective positions. Mr. Davenport as president is not only capable of discharging the duties of the office, but represents the best scholarship of the class. In choosing Mr. Thuerer for valedictorian, the class again showed excellent judgement and at the same time evinced their high appreciation of the excellent work done by Mr. Thuerer in the college. The following are the officers of the class of '07. President, George Davenport; Vice president, H. E. Jenkins; Secretary, A. M. Rodermund; Treasurer, J. L. Cunningham; Valedictorian, E. W. Thuerer; Prophet, C. E. Mayas; Poet, A. O. Aaker; Historian, J. D. Curtis; Artist, A. L. Forster; Editor, R. L. Wade; Chaplain, A. I. Lovell; Chairman of Executive Committee, W. B. Roads; Associate Members, B. G. Bissell, M. Meyerowitz, Geo. N. Wassom, James Graybeal; Sargeants at Arms, W. H. Seibert, W. H. Conser.

Now that the dust has cleared away we note the following facts. Bundy was too fat. Peterson lost out under the wire. Schiffbauer, Hageman and Jewel were also in the race.

Now that the election is over the juniors can get some sleep, enjoy the weather and incidentally prepare for the neurology examination. Most of us are in the last stages of

spring fever and several have had visions of "the old apple tree" "In the good old summer time."

SOPHOMORE NOTES.

The time is drawing near when we will bid adieu to this year's work except those few who will take the summer course.

The class election proved to be a most enlightening event as it brought forth the talent which seemed to be latent in one member of our class. On one occasion his speech was brilliant, yes, so brilliant that he seemed to all to be imbibed with the spirit of a Grecian Orator. The man whom we refer to is the Honorable Chas. Skwor. Mr. Spencer certainly did some tall engineering at the class election. The election as a whole was very quiet, except for the office of sergent-of-arms which was hotly contested.

Baldy Tucker wishes all to call him by his new cognomen, Mr. Al. King.

The officers for the ensuing year are:

Resident—B. V. McCabe.

Vice President—Robert Mosser.

Secretary—W. C. Comee.

Treasurer—J. J. Gearin.

Editor—E. R. Lescher.

Assistant Editor—A. C. Nussle.

Sargent-at-Arms—C. J. Skwor.

FRESHMAN NOTES.

B. M. Pugh '09 visited with us the other day.

"Cheer Up" fellows only two more weeks until you can smell the fresh air.

Dr. Wentz had a bad cold the other day. In fact it effected him to such an extent that it made his voice almost inaudible.

A rather peculiar thing happened the other day at Dr. Wynecoop's lecture, and I think the victim of the joke would be justified in taking up a collection for affording so

much amusement to the class. This student thought that if he left the room fifteen minutes earlier, that no one would miss him, so with this in view he decided to step out so as not to divert the attention of the class from the lecture. Quietly he put his leg over the back of one of the seats on to another and was just about to make his last glide, when one of those self adjusting seats slid back with the unfortunate young man's foot in it. Of course in a few minutes the whole class was in an uproar, and it appealed to Dr. Wynecoop so strongly that his mustache began to separate and it was followed by a little smile, while at the same time the victim was overexerting himself to remove his foot.

Class election took place May 11. The following officers were elected for the ensuing year:

President—C. J. Leavy (unanimously).

Vice President—J. A. Turner.

Secretary—Miss Van Holsen.

Treasurer—Mr. Menke.

Sargent-at-Arms—Mr. Harriman.

Outside Guard—Mr. Mensing.

Editor of PLEXUS—Smith (unanimously).

Many candidates were up and a hot time was the result.

SCHOOL OF DENTISTRY

DENTAL DEPARTMENT

UNIVERSITY OF ILLINOIS.

EDITORIAL COMMITTEE.

C. E. JONES, D. D. S.,

G. W. COOK, D. D. S.

B. J. CIGRAND, D. D. S.

C. E. JONES, Editor-in-Chief and Alumni Editor.

CLASS EDITORS.

Senior, G. H. STEPAENSON

Junior, C. B. SHARP.

Freshman, S. F. GORDON.

Publisher, - J. E. FORREST

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BATAVIA, ILL., MAY 20th, 1906.

"WORDS AND DEEDS THAT LAST FOREVER."*

By Dr. B. J. CIGRAND, Chicago.

Mr. Toastmaster; Honored Guests, Ladies and Gentlemen:—It is indeed an honor to be present at this distinguished gathering and to be selected as one to speak at this prandial board is a consideration one may well cherish as a high compliment. The subject assigned to me is one so far reaching and so intimately interwoven with the evolution and career of the present civilization that I hesitate the opening sentence in the fear that I know not where to begin and see not where to close; and this feeling so prevades my being that I am tempted to leave off just where I start hence saying nothing. This however will not be in accord with your generous requirement and in the language of the Bard of Avon I command myself to the thought "If 'twere done when it were done, it 'twere better it were done quickly."

Shakespeare tells us that "words are a kind of deeds," this we read in his Henry the VIII, and I am led to the belief that this truth is too often overlooked or too frequently underestimated. I hold to the idea that words are living

* Toast at Illinois State Dental Society Banquet, Springfield, May 11.

things, that they are an existing power, that they have an innate influence in every praiseworthy act or deed. Words are the foundation upon which most of the great acts, deeds and even epochs rest, they are the ideal upon which is later founded the real. Words are in the truth of things a synonym of deeds for one is to the other as is the bow to the string oft found apart, but best and more important when bound together. Yes these empty, meaningless words are really filled with life they travel, they continue to exist, and most of all are prolific and constantly bringing fruit. Whether orally spoken or whether found cold and quiet on the pages of the books enshrined in our numerous libraries, these empty, meaningless words are working, generating a most active life. In the vocabulary of the pessimist words are without meaning, they are dead but in the language of the optimist they are a flame bursting forth with vigor and action. For long since, yea, long before our form of civilization, the ancients well understood their relationship to life and they framed the thought that "Deeds are but the children of words."

Let the impression be yours, that words are deeds, and should you incline to the idea that they are idle and no kinship to deeds, pardon me if I remind you that it takes courage and even high forms of heroism to speak or write these things we call words. They are an element in the expression of our feelings and this in turn is the exponent of our thoughts, passions, or the emblems of our ambitions and the portrait of our inner lives. I repeat it requires character, manhood and fortitude to express the words that stand for rights or that ask for liberty.

Who can doubt this when we look back to the fearless Cromwell. We can see him with firm step approach the king and with unflinching voice reply to his sovereign in tones that have meant so much in words that burned with truth. Knowing as he did the gravity of his remarks to the powerful Charles the I, yet with his bosom filled with indignation and his being roused to patriotism he dared to say to a king: "tis true you are the king but it is also true that you

are our servant." Did the speaking of these words mean anything. Will these sounds from the mouth live? Read the answer in the history of England and find its echo in your own native land. Applause.

When the good christian soul, John Huss, was dragged out into the streets and by his inquisitors tied to the post and asked to recant and retreat from his liberalism in Christian faith; we hear him say to the angry religious mob. "No I will not retreat—you can have my body, but not my soul, that I resign to my God." The burning faggots with smoke and flame hid his face from the mob but he stood firm in his remarks and died a religious hero. Did deeds evolve from his words? Ask yourselves and find the answer in your National Constitution. In our own country many and matchless are the instances where word was the deed. Away down in the old dominion of Virginia we learn of the initial steps of great men, yes giants, in their attempt to merit the blessing of liberty. And our minds undirected turn to one youth. In the assembly of that old colony when still under the rule of George III, a young man dared to rise in the midst of delegates, who were yet loyal to the King, and owed their allegiance to the British colors. But the young man had words he wished to say, he anxiously waited to express his mind and when he arose he was the embodiment of Virginian patriotism and in one brief speech, overflowing with eloquence and pouring forth such a silvery stream of truth that his words enchanted all, and in the crucial moment he exclaimed to those who interrupted or attempted to intimidate, these words of defense and offense: "I know not what course others may seek but as for me Give me Liberty or Give me Death." In this statement you have the battle cry of all the colonists. Were these words a form of deeds. They most emphatically represent an act and the words of Patrick Henry were the inspiration which opened and closed your war for liberty. Applause.

In the northern colonies an incident transpired which might well be included in this chain of evidence. Washington had just taken command of the troops. He desired a

volunteer as a spy to learn of the strength and plans of the British and a New England lad offered his service. His prompt acceptance and all that lead to his capture is too clear to you to deserve detailing here. We are taken to an orchard and beneath an apple tree standing on the latter, with rope about his neck, we behold Nathan Hale. The British without military trial are about to hang him as a spy. They ask him if he wishes to say anything before the death sentence is meated out. He replies "I would like to kiss the bible my mother gave me." To this the provost sharply replies, "No". Then he is asked is there anything else you wish to say. Hale then asks. "Let me read the last lines of the letter from my sweet-heart." The British officer answers this by tearing the love letter into chaff before Hales eyes. Then the Provost in angry tones says, "Is there anything else you would like to say," Hale's being is now aroused to the full capacity of his patriotic impulse. He stands erect, turns his face heavenward and gazing into the azure sky he speaks those undying words; those words that are the soul of patriotism, "I regret that I have but one life to give to my country." Applause.

In the face of such facts there are still men who take the Talleyrand version of the meaning of words and language. He, you will remember, said: "Language was invented to hide men's thoughts and feelings." This construction on the purpose of language is in direct opposition to the facts; for I must take exception to the statement of the distinguished Frenchman. Words are for a more noble intent, they transmit the life and soul of human beings in whom the impulses of nature have not yet fallen to the low ebb of mockery; words with the human family are used in the interest of every known form of progress and they stand as representatives of our beings, bringing brine to the eye and gladness to the heart. Applause.

Your applause lends comfort to me, though your absolute silence too has a language whose words I understand. For silence speaks often as expressively as does the tongue. Our honored guest, Governor Deneen, can verify that in

the courts silence is recognized in testimony. He will bear testimony that law construes "silence as giving consent." But on an occasion such as this silence would not yield the fullness of expression; let us take to heart the kind words of the governor, let us be encouraging, let us be appreciative, and let these words of kindness come to the living, thus making life sweeter and in return we shall be the ones who shall profit. Let us not forget that kind words made Watt the inventor; encouraging words made of West the renowned painter, and comforting words made Washington the hero. Words are deeds and it requires courage, heroism and fortitude to speak them.

Words, empty, idle and meaningless words brought Raleigh to the cell; words led Bunyan behind the bars; words placed Paine within the prison, and words forced Galelo into the darkness of the dungeon, but it was the self-sacrifice and self-denial of these heroes of expression which have emancipated the human tongue and brought sunlight to the human mind.

Great wars and disputes of nations have been avoided, and thus thousands of lives spared by the intervention of words. We gladly refer to the time when France demanded of this country the humiliation of revenue. The country had the rare fortune of a powerful American as its ambassador at the court of France, and when the test of national pride was provoked it was Pinckney who could voice the sentiment of a republican form of government, and in one sentence allay war and restore peace and good will; his reply being, "Millions for defense, not one cent for tribute." Applause.

Within the precincts of this distinguished hotel was reared, though born in Kentucky, a son destined to serve the people with both words and deeds, and his life bears out the fact that words are the mothers of deeds, for what he early preached to the populace he later enacted into history. This beloved and venerated representative of all that we hold dear was a pronounced commoner who was the pillar of strength when the fabric of our nation was weighted

down in fratricidal strife. He too has given us words that shall live forever. He has emphasized the essence of all religions and summerized the soul of the Christian creed. Lincoln said, "With malice toward none and charity for all." Applause.

And when this country was convulsed by the assassination of this giant from Illinois, and the country was awe-stricken by its effect. When men knew not what the death might bring and in the uncertainties of the hour, when all government power seemed lost, words, only words, were used to restore respect, law and order. The people had never experienced the calamity of such a shock. The disorder was so great that something must be done and without delay. You might move troops up the street and march soldiers down the street, but this meant nothing to a frenzied and revenge-seeking populace. The law-makers recognized the power of eloquence, and they demanded that James A. Garfield speak to the people and in this instance the powerful influence of the right word in the right place and at the right time was most potent. Garfield stood on the balcony and in clear and distinct words he said to the expectant crowds: "Fellow citizens, God reigns and the government at Washington still lives." Applause. This exemplifies what words can do and portrays that words are a form of deed.

But I have been selected to show that words and deeds go together as handmaids of one intention. You have asked that I represent these forty-five dental societies. I feel my incapacity and fully realize the shortcoming of such an undertaking, and Governor Deneen and Senator Clark, let me assure you that this is the most representative gathering of dentists ever placed under the auspices of the Illinois State Dental Society. These men come from every city, town and hamlet of our great state, and they bring you glad tidings. Governor Deneen, it was by your signature that the dental profession was raised to a higher and more noble plane, and let me assert in the presence of these distinguished witnesses that the law was not demanded in the

interest of those here assembled nor in the interest of the dental profession, but it was championed by these men and societies in the hope of protecting the people whom you so ably represent. Applause.

We are familiar with the hardships of Senator Clark, we are acquainted with the task he so ably performed; we know that he allowed other ambitions to sink with the sun beneath the western skies; that he remained faithful to his pledge to us, and not unmindful of this loyalty these dental societies, colleges and institutions had formulated respective resolutions of appreciation, and in this beautiful book are words blazoned in bold type expressive of our high regard for your deeds. Accept this gift of words and know that these words stand for sincerity and that they express the warmth of gratitude. Applause.

SCHOOL OF PHARMACY. OF THE UNIVERSITY OF ILLINOIS.

EDITORIAL COMMITTEE:

F. M. Goodman, Ph. G., C. S. N. Hallberg, Ph. G., W. A. Puckner, Ph. G.,
H. H. Rogers, M. D., Ph. B., E. N. Gathercoal, Ph. G.,
A. H. Clark, Ph. G., C. M. Snow, Ph. G.

WILLIAM B. DAY, EDITOR-IN-CHIEF.

CLASS EDITOR:

A. G. C. Ackermann, '06.
T. E. P. FURMAN, '07. A. S. BOYER, '07.

THE COMMENCEMENT.

The forty-sixth commencement of the School of Pharmacy of the University of Illinois (Chicago College of Pharmacy) was held at Steinway hall, Thursday afternoon, April 26th.

The theatre was well filled with friends and relatives of the Graduating Class who were welcomed by Dean Goodman in behalf of the School. The salutatory address was given by Mr. Albert G. C. Ackermann of the Graduating Class while the principal address of the day was made by Professor Edward Kremers of the University of Wisconsin, who reviewed the rise and growth of professional pharmacy, the establishment of the American Pharmaceutical Association and its effect upon pharmaceutical education. Dr. Kremers spoke of the gradual decadence of the apprenticeship system and its replacement by the systematic training in pharmaceutical schools and colleges.

President Edmund J. James of the University of Illinois conferred the degree of Graduate in Pharmacy upon 52 candidates and certificates of proficiency upon 5 as follows:

RECEIVE THE DEGREE OF GRADUATE IN PHARMACY.

- Albert G. C. Ackermann, Quincy.
Emilio Alfaro, Barros, P. R.
Walter Edward Anderson, Kasson, Minn.
Ethelyn Belle Arnold, Watseka.
Allen Beckett, Chicago.
Earle Scott Bourne, Lewis, Ind.
Frank Emery Bucklin, Chicago.
Henry Gottfrid Carlson, Moline.
Daniel Tappenden Cropp, Chicago.
Gustav Garfield Dale, Chicago.
Leonard Berry Fox, Chicago.
Narcys George Fry, Chicago.
Charles Desire Gautlier, Green Bay, Wis.
Ernst Elmer Grebel, Beaver Dam, Wis.
Wilbur Grimes, Clinton,
Loren Milton Haeseler, Lisbon, Ia.
George Fred Haffner, Farmer City.
Charles Edward Hoffman, Plymouth, Wis.
David Lewis Holland, Chicago.
Louis Goodman Jacobs, Chicago.
Delbert Gustav Knoblock, South Bend, Ind.
Frank Fred Krueger, Seymour, Ind.
Henry John Krueger, Chicago.
John Ernest Laatz, Chicago.
Hugh McCaslin, Nokomis.
Charles Gratiano McDow, C. Juarez, Mexico.
Don Grover Machenheimer, Carmi.
Walter Simonds Mayhew, Kasson, Minn.
Frederick M. F. Meixner, Chillicothe.
Walter Allen Murray, Traverse City, Mich.
Rolf Reite, Cooperstown, N. D.
John William Robiason, Peru.
George William Seifried, Chicago.
Paul Seyfert, Thiensville, Wis.
Otto Shatzkis, Chicago.
Luther Lee Taylor, Havana.
George Edwin White, Chicago.

John Peter Wiltgen, Chicago.

Elmer Joseph Mercil (Class of '02), Chicago.

Charles Demes (Class of '04), Chicago.

William John Leiner (Class of '04), Ottawa.

Hugo Julius Schumm (Class of '04), La Porte, Ind.

Charles Venn (Class of '04), Chicago.

Harvey Andrew Watson (Class of '04), Chicago.

Charles William Boyce (Class of '05), Chicago.

John Ross Hall (Class of '05), Bloomington.

William Milton Eugene Hawk (Class of '05), Kittanning,

Pa.

James Michael Honsik (Class of '05), Chicago.

Edward Albert Lukasek (Class of '05), Chicago.

R. Frank Mayfield (Class of '05), Mt. Vernon.

John Kumler Parker (Class of '05), Griggsville.

James Patejdl (Class of '05), Chicago.

Receive a certificate of having finished the Course successfully. Will receive the degree when the required age and practical experience are attained.

Frank Alexander Crawford, Herscher.

Rudolph George Mrazek, Chicago.

Martin Schupmann, Chicago.

Edward De Stefano, Chicago.

Claude Enoch Tilton, Fairmount.

The gold medal given annually by the Alumni Association for the highest average in general scholarship was presented to Mr. Claude Enoch Tilton, by Dr. A. W. Baer, President of the Alumni Association. The Biroth prize consisting of a compound microscope was presented to Mr. Frederick M. F. Meixner by Professor W. B. Day. Mr. Tilton also received the Searle & Hereth prize for the best work in chemistry. This prize consists of a complete set of the Proceedings of the American Pharmaceutical Association and nomination to membership in the Association. The Becker prize, a mahogany cabinet for reagents and apparatus and awarded for the best work in pharmacy was presented to Mr. Charles D. Gauthier by Professor C. S. N. Hallberg representing Mr. L. A. Becker. Professor Hall-

berg presented the second pharmacy prize consisting of nomination to membership in the American Pharmaceutical Association to Miss Ethelyn Belle Arnold.

Honorable mention for excellence in scholarship was awarded to Claude Enoch Tilton, Ethelyn Belle Arnold, Charles Desire Gauthier, Fred M. F. Meixner, Albert G. C. Ackermann, Wilbur Grimes, Walter Allen Murray, Paul Seyfert and Rolf Reite.

An excellent valedictory address was delivered by Claude Enoch Tilton.

THE ALUMNI BANQUET.

On the evening of Commencement Day the annual banquet and reunion of the Alumni Association was held at Hamilton Club. About 150 of the alumni and their friends were present including many ladies. President James and Mr. Bullard, Mr. McLean, Dr. Davidson, Mrs. Evans, Mrs. Alexander and Mrs. Busey of the Board of Trustees of the University honored the occasion with their presence.

After discussing an elaborate menu the intellectual feast was inaugurated by some appropriate remarks by the Toastmaster, Dr. A. W. Baer. President James responded to the toast "University of Illinois," and took occasion to urge the alumni of the School of Pharmacy to interest themselves in the other alumni organizations of the University while not lessening their enthusiasm for their own school. Dr. James also referred to the necessity of organizing the pharmacists of the state to secure for pharmacy the recognition to which it is entitled. Mrs. Evans, Chairman of the Committee on the School, spoke for the Board of Trustees, and evoked much enthusiasm by promising that the School should have the appropriation at the next session of the legislature. Mr. Walter H. Gale spoke for the Advisory Board, and indicated the peculiar position which that body occupies in linking the University to the Illinois Pharmaceutical Association. Professor Hallberg made a characteristically witty and entertaining talk in response to the toast of "The Faculty." Mr. Walter A. Murray re-

sponded for the class. Dr. Wm. E. Quine, Dean of the College of Medicine, delivered an eloquent oration in response to the toast "Woman's Sphere." Mr. M. A. Shebbessy gave a very enjoyable recitation.

The affair closed at a late hour. The banquet was noteworthy on account of the number of alumni who had come from considerable distances to be present at the annual reunion.

BOTANICAL EXCURSIONS.

The botanical excursions announced for May and June will be held as follows:

First excursion Thursday, May 10th, to Glencoe, Ill. Take C. & N. W. R. R., Wells street depot, Wells and Kinzie street. Train leaves on Milwaukee division at 10:30 A. M., returning arrives at 5:45 P. M. Fare about 25 cents each way on 25 ride ticket.

Second excursion to Hinsdale, Ill., Thursday, May 24. Train leaves on C. B. & Q., Union depot, Canal and Adams streets, at 10:15 A. M. Returning arrives at 5:45 P. M. Fare about 20 cents each way on 25 ride ticket.

Third excursion Thursday, June 7, to Glencoe, Ill. Same hour and place of meeting as for the first excursion.

Fourth excursion Thursday, June 21, to Gibson, Ind. Announcement of hour will be made later.

ALUMNI NOTES.

A. G. C. Ackermann, '06, who has represented his class on the PLEXUS staff during the last two years, has returned to his home at Quincy and accepted a position with W. G. H. Hagemann, '03, in the new pharmacy at 5th and Cherry streets.

John Wehrley, '05, and Miss Helen C. Beutler were married at Montmorency, Ind., April 19th. Mr. Wehrley is prescriptionist at Patterson's Pharmacy, 37th street and Cottage Grove avenue.

H. F. Staack, '05, of Maquoketa, Iowa, and S. V. Justus, '03 of Clinton, Iowa, attended the Commencement and Banquet.

JUNIOR NOTES.

On the evening of April 14, the Junior students of the Illinois School of Pharmacy celebrated the close of the first year's work by giving a theatre party.

About fifty members met at the college building and marched down Michigan avenue (without any police interference) singing "My Illinois." Afterwards they attended a presentation of "The College Widow," at the Studebaker, closing the evening's entertainment with a delightful supper at the Bismarck Café. During the progress of the supper songs were sung, speeches made and a general good time had by all present.

The affair was carried to a successful conclusion by a committee consisting of Messrs. Anderson and Bakkers, of Chicago, and Mr. Beaman, of Shelbyville, Ill.

The junior students awarded honorable mention for excellence in scholarship are: John P. Lee, Lotis L. Huston, George F. Langheim, Karel B. Blahnik, Joseph H. Christmann, Charles F. Kingery, and Walter H. Reuter.

THE NOSTRUM FROM THE VIEWPOINT OF THE PHARMACIST.*

W. A. PUCKNER, Professor of Chemistry, University of Illinois School of Pharmacy, Chicago.

While the responsibility of the medical teacher for existing conditions will be discussed by another speaker, I cannot resist this opportunity offered me, a pharmacist permitted to address physicians, to say that without question the insufficient instruction in materia medica, pharmacology, pharmacy and chemistry offered by schools of medicine is the direct cause of present conditions.

I wish to point out to you how this lack of proper training along the lines indicated has made the physician dependent on ready made remedies, proprietaries and nostrums,

Read in a symposium on Proprietary Medicines and Nostrums before the Chicago Medical Society.

and how this, again, has been the making of "patent medicines," has led to self-medication and to counter prescribing, and has been the cause of making pharmacists forget their professional standing.

As a teacher, I would like to add that not only has the instruction in these subjects been inadequate because of the limited time allotted to them and because the student is led to attach too little importance to them, but often also because of the instructor's lack of familiarity with the subject which he is supposed to teach. This condition is but too frequently brought to my notice by former students who, having graduated in pharmacy, have taken up the study of medicine. As an illustration, I may refer to an article by Dr. Galloway in which he protests against some haphazard, incorrect statements made by teachers in schools of medicine. Dr. Galloway reports statements made in favor of a certain brand of chloroform as opposed to another kind; statements so unfair and unwarranted that they can but be taken to show the lecturer's unfamiliarity with the subject he teaches. Other instances are cited which show that the lecturers, not being sufficiently familiar with the chemistry and pharmacy of medicines, are led to draw on the imagination and to offer to students statements which are entirely at variance with the facts.

Since the newly graduated physician, therefore, has but a limited acquaintance with the remedies which he must employ, his prescriptions are liable to be unsightly, nauseating or, because of incompatibilities, perhaps inert. As a result of this two consequences are probable: First, if the patient discovers the physician's incompetency, when again in need of treatment he will go to his pharmacist for advice, since the pharmacist at least is familiar with the remedies which are used in the treatment of disease; second, when the physician comes to realize his lack of familiarity with medicines then he most probably will fall back on the proprietary remedies, ready-made, with the dose on the label, of pleasant odor and taste and said to possess marvelous virtues.

The lack of familiarity with the common remedies often shown by physicians was strikingly brought to my attention recently. I was suffering from an attack of acute indigestion and called a physician; in due time the attendant placed a powder on my tongue and requested me to swallow it. The powder, which I later learned contained magnesium carbonate, at once formed a compact mass, firmly adhering to the tongue, much as plaster-of-Paris would. I asked for a little water and was informed that the physician had prohibited all food and drink, but that I might have a teaspoonful of water on promise not to swallow it. Naturally I removed the concretion still adhering to my tongue and made no further attempt to take the medicine.

Were such physicians but competent to judge the effect of the remedies which they administer the dependence on proprietaries would not be so bad, since most, or at least, many possess some merit. Unfortunately, however, the physician's training is likely to be such that he can not distinguish the rank fraud from the efficacious remedy, honestly made and sold. It is this inability to judge the effect of medicine which has brought about the custom, now almost universal, of outrageously exaggerating the virtues of these proprietaries. The following will illustrate how a physician often is led to use absolutely worthless remedies: Some years ago a preparation was placed on the market under the name of "Flora China," which was claimed to be "pure quinin sulphate," but to be tasteless and to do all that the bitter quinin would do. In appearance the substance resembled quinin sulphate and it certainly was tasteless, but on examination I found it to be nothing but crystallized calcium sulphate. Yet some five years later a student told me that a certain physician prescribed it and had used no other kind of quinin for years.

In this way a large portion of the medical profession has become dependent on the advertising literature and the detail men of proprietary dealers for the treatment of their patients. They listen to tales of the wonderful virtues of "bracemup" or "stimuline," written probably by a

person having no knowledge of medicine whatever or perhaps compiled from obsolete medical works.

Recently a letter sent by a pharmaceutical house to its salesmen ("detail men") came to my notice. This letter, after stating that a successful salesman must be a student of human nature, etc., went on to say that the educated physician should be approached something like this: "Doctor, I have here a preparation of — —; if you employ this drug in your practice you will find that this preparation of the drug, manufactured by reliable and skillful pharmacists, contains the very best quality of the drug and is combined in such a way as to obtain the greatest good from the remedy." Then it went on to say that, as pharmacists, it is the business of the manufacturing pharmacists to put into the hands of physicians drugs of the highest quality, knowing well that physicians will know what use to make of them. The letter continued that, unfortunately, however, there were a great many physicians of inferior education along lines of materia medica and therapeutics with whom such arguments would fail and who must be told that a certain preparation is good for a certain kind of cough, that another remedy is a "winner" in the treatment of a certain brand of this or that disease and who like to read glowing testimonials of wonders accomplished. This letter in conclusion suggested that the salesman must judge which of these two methods to adopt in approaching the doctor. That in any case it would do no harm to flatter by assuming that the doctor knew his business, and later to change the mode of attack if they should find that he did not know his business.

Finally, let me illustrate how the use of proprietaries by the physician must cause a lack of confidence on the part of the patient, and induce self-medication, or cause counter prescribing by the druggist and be the making of "patent medicines." While practicing pharmacy one day I was asked to prescribe for a man who said that he had contracted gonorrhea. Instead I advised him to consult a physician. Soon after I was summoned to the telephone

and asked by a well-known surgeon for the name of "those black capsules that come in a flat box." In due time I was requested to fill the prescription, and although the capsules were taken out of their container and placed in an ordinary pill box, yet the patient recognized the familiar remedy at a glance and in no complimentary manner commented on the time and money wasted in consulting the physician.

Imagine the frame of mind of the patient who, having consulted his physician and paid his fee, learns that his prescription calls for orangeine or antikamnia, with which the daily press has made him familiar.

What do you suppose he will do when next he has neuralgic pain or any other pain; or if his sister or his brother or his aunt has any kind of pain?

But you say: "We do not prescribe remedies advertised in the daily papers." Yes, but how did Fellow's syrup, or worse still, McMunn's elixir, become a "patent medicine?" Because they were prescribed by physicians, who thus assumed the role of "advance agents." Rest assured that whenever a physician prescribes any of these remedies with nice, smooth, catchy names, no matter how illegible his writing, and even though he does not follow the advice of the promoters to direct that they be dispensed in original containers, with the "name blown in the bottle," patients will, sooner or later, learn what they are taking. If the remedy has the desired effect and cures this or that trouble, the patient when next indisposed will purchase his medicine direct and dispense with the physician's services. Furthermore he will recommend it to his friends using the physician's name as a guarantee of its virtues. Next its advertisements will be transferred from the medical journals to the daily press and the physician will have officiated at the birth of another so called "patent medicine."

A practice still more reprehensible, it seems to me, is that of supplying patients with "physicians' samples." Seeing that his physician tries on him remedies about which he plainly knows nothing it is small wonder if in the future the patient will prefer to consult the "patent-medicine" literature of the daily paper or will study the placards on fence posts and in street cars to find some remedy fitted to cure him, since to him it must seem that his physician did this when last consulted

THE PLEXUS

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MEDICAL DEPARTMENT OF THE

UNIVERSITY OF ILLINOIS,

CHICAGO.

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BATAVIA, JUNE 20th, 1906.

NO 6.

EXERCISES AT THE GRADUATION OF THE CLASS OF 1906, COLLEGE OF PHYSICIANS AND SURGEONS, CHICAGO.

GRADUATES.

CLASS MOTTO:

"Semper Discipuli."

Abbott, Effie Louise	Moore, Ralph Vernon
Anderson, Alma Saraphia	Morrow, Louise
Andrews, Howard	Movius, Alfred Henry, Ph. G.
Ballance, Charles, Jr.	Murray, Dudley Ellis
Barrett, Fred Thornton	MacGillivray, Duffield Dufferin
Bauer, Frederick	McLane, George Albert
Beeson, Benjamin Barker	MacMillian, Lachlan
Benson, Iver Simeon	McMurray, Ray James
Benson, Lester Jarvis	Nathan, Edward Ellis
Bent, Frank Homer	Nathanson, Charlotte Alden
Berglund, Simon, A. B.	Nathanson, Joseph Lawrence
Boal, Daniel	Nebeker, Elbert Ferguson, Ph. G.
Bock, John Jay	Nee, Frank
Bogardus, Fred Brown	Newell, Floyd Wilmoth
Bowen, Jesse Clark	Northercross, David Canneen
Bowles, Loetta Beamer	Novashelsky, Benjamin Sol
Bowman, William Townzen, Ph.G.	O'Connell, John Patrick
Bowsher, Frank Llewellyn	O'Leary, Thomas J.
Brewer, Ernest Franklin	Olson, Alfred Louis
Brosseau, Jesse Edward, Ph.G., B.S.	O'Neil, John Patrick
Brown, Harry Stafford	O'Neil, William Edward, A.B.
Brucker, Matthew William	Osborn, George Robert
Bybee, Addison	Park, Samuel J.

- Buchan, Edward James
 Carman, Henry Ferrell
 Cathcart, William Frederick
 Clark, Edward Harry
 Clement, Charles Clinton, A.B.
 Cohen, Hyman
 Cooper, S. Rachel Merrill
 Cremin, William Joseph S., Ph.G.
 Croft, Albert Joseph
 Cronin, John James, A.B.
 Cutler, Edwin
 Davis, Robert Anthony, Ph.G.
 Davis, Russell Newton, A. B.
 Dewey, Fred Girard
 Dougherty, William Byrne, B. A.
 Duguid, James Henry
 Dvorak, Georgiana Margaret
 Edgcomb, John Harold
 Edison, Samuel M
 Egan, J. James
 Fairhall, Leo Victor
 Fast, Harry DeWitt
 Feagler, Jesse Peter
 Fenton, Thomas J.
 Finney, Ernest Orion
 Fischer, Albert Michael
 Flannery, Robert Emmett
 Flynn, Helen B.
 Fomon, Samuel
 Ford, Ernest Jason, A. B.
 Furstman, Jacob Milton
 Glenn, Edward Andrew
 Grable, Harry G.
 Grove, John Leon
 Grua, Oscar E, Ph. G.
 Gwinn, Ernest Clarke, Ph. G.
 Haeffner, Albert William
 Halsey, William Howard
 Hamel, Clarence Earl
 Hammond, Walter Donald
 Hanelin, William Benjamin
 Harper, Homer Benton
 Harris, Chester E.
 Harris, Louis J.
 Harris, Ray Rhinaldo
 Parsons, Irving Wheeler
 Peisch, Benjamin Frederic
 Peters, LeRoy S.
 Peterson, Martin David Ephriam
 Pettit, Herbert Leroy
 Pickrell, William Benjamin
 Pierce, Joseph Cooper
 Pillinger, Herbert Henry
 Pinkerton, Harry Blaine
 Pitz, Henry Robert
 Pollock, Lewis John
 Provine, George Sumner
 Pryor, Ray Ethelbert, A. B.
 Rach, Emil Arthur
 Rego, Alfred d'Almeida
 Reiss, Oscar
 Rice, Merton Henry
 Rickard, Edward Thomas
 Ricketts, Joy
 Ri le, Miles David, B.S.
 Ridley, William Alvah
 Ries, Anna Frances
 Rinkenberger, Frederick W.
 Roach, Richard Morrison
 Robb, Charles Elbert
 Robin, Samuel M.
 Rose, Joseph
 Rosenzweig, Louis
 Ross, George William
 Ross, Robert Malcolm, A.B.
 Rost, John Frederick Wilken
 Rutkauskas, Anthony Kazis
 Salomon, Richard Sigmund Hau
 Sandven, Nels O.
 Schaffarzick, Charles Frank, Ph.G.
 Schmidt, Lawrence Maurice
 Schroeder, George Henry
 Schwartz, Mary
 Schwartz, Reinhard Fredrick
 Sears, Hebert J.
 Secker, William Valentine
 Sel's, William Arthur
 Sepple, Edward Gerald
 Sharrer, Frank Leslie
 Shelly, Hargus Gerald

Harwood, Dorsey A.	Siders, W. Bert
Hatfield, Lena, A.B.	Simmons, Jay Claude
Hattendorf, Jesse	Smith, Charles Kenneth
Hawkinson, Oscar	Smith, Harvey LeRoy, A.B., A.M.
Hayes, Karl Lowell, B.S.	Smith, William Lester, A.B.
Helwig, Alvin George	Sorenson, Alfred Renhardt, A.B.
Henderson, Clarence	Standard, Alphonso Perry, A.B.
Hench, John Maddison	Stevenson, Andrew Willis
Higginbotham, Thomas Lafayette	Stevens, Fred Warner
Hill, Armina Sears	Stewart, Alfred Jesse
Hollis, John Claude	Stone, French F.
Holmes, Ralph Randall, A.B., A.M.	Stuart, Gerhardus J., A.B.
Hoover, Enos Musser	Stull, Katherine Cecil
Horn, Emmett Eugene	Sunderland, Willian Eben, B.S.
Hotchkiss, Walter Booth	Swindle, Robert Norris
Howard, Charles Earl	Szopinski, Aloysius
Jacobs, John Martin, Jr.	Theobold, Frank John
Jackson, Charles Augustus	Thomas, Harry V.
Kauffman, Edward Jerome	Thompson, Orris Martin
Keller, Samuel Alvin	Tillotson, C. Homer
Kennelley, Frank Clair	Trout, Frank Marshall
Kleinschmidt, George John	VanNess, J. Howard
Knappenberger, T. Gaillard	VanZant, Noble
Knowles, Edwin Winslow	Wagner, Fredrick Johannes
Konzelman, John Albert	Wahlerz, William Alexander, B.S.
Kraus, Harry A.	Watkins, Rachel A
Krueger, Arthur, H.R.	West, William Butler
Lahn, Henry	Wichmann, Frederick William
Langworthy, George Lucene	Wickstrom, Albert Michael
Lawson, John Fonrose	Winkler, Frank Paul
Lexa, Frank Joseph	Windsor, Richard Frederick
Loofbourrow, Elias Homer, B.S.	Wood, William Walter
Luken, Martin Girard	Woodhull, Maurice Welch
Lutyens, George Benjamin, B.S.	Woodnick, George W.
Maher, Thomas Francis	Woods, Bert Leslie Taylor
Miller, Leo Cassius	Wynkoop, Gilbert Haven, B.S.
Miller, Noble William	Yampolsky, Rebecca Miriam
Moldenhauer, William John	

HOSPITAL APPOINTMENTS.

1906

Cook County Hospital.....	Lawrence Maurice Schmidt
.....	William John Moldenhauer
West Side Hospital.....	Ernest Jason Ford, A. B.
.....	George Sumner Provine

	 William Howard Halsey
	 John Harold Edgcomb
	 Fredrick Johannes Wagner
Augustana Hospital.....	Gilbert Haven Wyneknop, B.S.
	 John Martin Jacobs, M.D.
	 Charles Clinton Clement, A.B.
	 John Madison Hench
St. Mary's Hospital.....	George Henry Schroeder
	 Robert Emmett Flannery
Chicago Hospital.....	Harry G. Grable
	 William Alexander Walters, B. S.
Dunning Hospital.....	Loetta Beamer Bowles
	 Roy Ethelbert Pryor, A, B.
	 Charlotte A. Nathanson
	 LeRoy S. Peters
Alexian Brothers Hospital.....	Arthur H. R. Krueger
Michael Reese Hospital.....	Chester E. Harris, A.M.
	 Samuel Fomon
St. Luke's Hospital.....	Jacob Milton Furstman
German Hospital.....	Frederick William Wichmann
Lakeside Hospital.....	Alfred Henry Movius, Ph.G.
	 William Walter Wood
St. Joseph's Hospital.....	John Patrick O'Neil
St. Elizabeth's Hospital.....	Martin Girard Luken
	 William Edward O'Neil, A.B.
Passavant Hospital.....	Oscar Hawkinson
	 George Ducene Langworth
Norwegian Deaconess' Hospital.....	Iver Simeon Benson
Woman's Hospital.....	Katherine Cecil Stull
	 Georgiana Margaret Dvorak
	 Anna Francis Ries
Grace Hospital.....	Matthew William Brucker
	 Charles Earl Howard
North Chicago Hospital.....	William Byrne Dougherty, B.A.
St. Anthony's Hospital, Denver, Colo.....	B. Barker Beeson
Park Avenue Hospital.....	Bert Leslie Taylor Woods
Phoenix Hospital, Maywood, Ill	Ray James McMurray
	 Orris Martin Thompson
Tabitha Norweigan Hospital.....	Irving Wheeler Parsons
Chicago Emergency Hospital.....	Jay Claude Simmons
Yarros Maternity Hospital.....	Armina Sears Hill
	 Lena Hatfield, B.A.

Batavia Bellvue Sanitarium.....	Rachel A. Watkins
Washington Park Hospital.....	Robert Norris Swindle
St. Mary's Hospital, Oshkosh, Wis.....	Albert Michael Fisher
Menominee River Hospital, Marinette, Wis.....	Simon Berglund, A.B.
St. Margaret's Hospital, Hammond, Ind.....	Daniel Boal
Toledo Hospital, Toledo, Ohio.....	Frank Leslie Sharrer
.....	Frank Homer Bent
New England Hospital for Women and Children, Boston.	Louise Morrow
Detroit Hospital for Women, Detroit, Mich.....	Jessie Hattendorf

CLASS DAY EXERCISES.

The Class Day exercises of the class of 1906 were held in the Assembly Hall of the College of Physicians and Surgeons on Saturday June 2nd, 1906, President Wm. E. O'Neil, '06, presiding.

The following programme was rendered.

Invocation	Rev. E. J. Gleeson, S. J.
Professor Psychology, St. Ignatius College.	
Piano Solo—Rigoletto	<i>Liszt</i>
Miss Martha A. Cottor	
Historian	Frederick Bauer
Vocal Solo	<i>Selected</i>
Mrs. Agnes F. Breen	
Address	Rev. E. J. Gleeson, S. J.
Recitation—The Ballad of Arabella	<i>Trowbridge</i>
Mrs. Willard Brode	
Class Poem	Irving Wheeler Parsons
Piano Solo	<i>Selected</i>
Miss Lottie Cagney	
Presentation of Tablet and Class Picture	
William Alexander Walters, B. S.	
Acceptation	Prof. W. E. Quine, M. D., LL. D., Dean
Benediction	Rev. E. J. Gleeson, S. J.

Seated on the platform with President O'Neil were Dean Wm. E. Quine, Dr. D. A. K. Steele and those who took part in the exercises.

The large audience present were greatly pleased with the various numbers on the programme and thoroughly enjoyed the occasion.

The numbers were all well rendered and it would be impossible to single out any one and say that it was best. The piano solos by Miss Cotton and Miss Cagney, as well as the vocal solo by Mrs. Breen were well rendered and showed much more than average ability on the part of the performers. Mrs. Brode's recitations kept the audience in a continuous roar of applause, and the class poem by Mr. Parsons and history by Mr. Bauer were greatly appreciated.

Mr. Walters in a few well chosen words presented the class picture and tablet which were accepted for the faculty by Dean Quine, whose earnest words could but cement and further strengthen the bonds of respect and love of the students for their teacher.

The Reverend E. J. Gleeson, S. J., a finished speaker, delivered the address which we take great pleasure in reproducing as follows.

ADDRESS TO THE CLASS OF 1906 OF THE COLLEGE OF PHYSICIANS AND SURGEONS.

BY REV. E. J. GLEESON, S. J.

Professor of Psychology and Sociology, St. Ignatius College, Chicago.

In complying with the invitation with which you have honored me, to address you on this occasion, permit me to begin by placing myself in a true position. I am not a physician and shall therefore prudently avoid subjects strictly medical about which you know more than I do. I am a priest, but the occasion does not call for a sermon. There is ground common to physician and priest which will furnish abundant and appropriate matter. The physician and the priest meet in the sick room; the one, solicitous for the health of the body; the other, for that of the soul.

As the welfare of each is intimately connected with that of the other, it would be folly for physician and priest to stand apart or antagonize one another, when co-operation may be the only means of success for both. Barring a few exceptions found in all spheres of life, the relations of

physician and priest are uniformly agreeable and mutually beneficial.

The possibilities for good or for evil before the young physician are pregnant with hope and with fear. He has knowledge and opportunities. His use of them will make him either one of the greatest benefactors of the human human race or one of its most treacherous enemies. The climax of baseness is, to abuse the confidence of innocence compelled by suffering to place itself in the power of another. What will determine the course of the physician? Largely his own character, and that character anchored securely against the violence of temptation by motives which religion alone can supply.

The physician requires professional knowledge. The high standing and reputation of your Alma Mater, the College of Physicians and Surgeons, is guarantee that you go forth well equipped in this respect. But professional knowledge, though necessary, is not sufficient for eminence. Exclusively professional devotedness throws one into a groove, narrows, warps, surfeits the mind. Varied knowledge, acquaintance with cognate subjects and their relations to the professions correct the judgement, broaden, relieve the mind. Few men had more absorbing public duties than Mr. Gladstone; yet he rarely lost his hour, and never his relish for history, philosophy, literature, science, religion, and his public duties and greatness did not suffer but benefited thereby.

One of the effects of exclusively professional devotion, is to make one view things from the merely professional standpoint, regardless of other considerations which should be taken into account. The object of the business man is to make money. Can he ignore justice and charity in his methods? This is one of the chief causes of the commercial evils that called into being and strength Socialism, and required investigations such as are now appalling the public.

The lawyer's purpose is the success of his client's cause. May he further it by falsification, bribery, perjury, forgery? May not this be one of the causes of the present

immunity and prevalence of crime, the insecurity of life, virtue, property?

A narrow, selfish, partisan view of public affairs makes the petty politician; the broad view, embracing the general welfare, the statesmen.

The physician professionally seeks the preservation of life and health. In a case of danger should he not warn the family to arrange their business affairs? How can he ignore the morality of the treatment, or the religious convictions of his patient? If he does, his practice will pay the penalty.

One of the reasons perhaps why the religious convictions of the patient are sometimes regarded, is the influence of the materialistic spirit abroad in the world. Some years ago I read a paper before a medical association, and in the discussion which followed, one gentleman claimed that no physician, well versed and experienced in his profession, could be a materialist; that he could not help recognizing in man something more than an animal body; that he must admit a power behind and above nature.

On the other hand a materialistic anatomist argued that he had carefully examined the brain under the microscope and had found no soul; and then he smiled in triumph and pitied those who thought otherwise. To test this argument let us construct a similar one. The eyes can not see sound; therefore there is no such thing as sound, the ears cannot hear color, therefore there is no such thing as color; such is the argument of that anatomist; the senses cannot perceive the soul; therefore there is no soul; an argument worthy of empirical scepticism and positivism. Besides senses, man has an intellect that by reasoning can arrive at a knowledge of the spiritual soul as unmistakably as the eyes can see a colored body.

Materialism vaunts itself in high-sounding names, science, progress, to mask its shallowness. It has not an inch of ground to stand on. Applying the principle of causality, the fair minded, intelligent man cannot resist the conclusion that in man besides a material body, must be admitted a spiritual soul; that the existence of a material universe can

be accounted for only by the admission of a creator. All other explanations are reducible to two: pantheism or self-existent matter, both of which are self-contradictory.

A fetich is a material image, of wood or stone, set up for worship. In this age of reason science, enlightenment, progress, we pity or despair the ignorance or superstition of fetichism. Would not we be astonished to find fetichism in honor among us? Fetiches set up in the temples of reason and science? With some, materialism is a fetich, but a vulgar one. There is another; an aristocratic one. The doctor that claims no physician could be a materialist, remarked, with an air of superiority, that he was an agnostic. Agnosticism! What is it? Agnosticism means ignorance. What, glory in ignorance! Oh no, they say, it is not ignorance, but a theory that holds some things unknowable. What things? Chiefly the origin and end of man and of the universe, the existence of God, the nature of the human soul. Why are these things unknowable? Is it not suspicious that all the unknowable things of the agnostic belong to the moral and religious order? Man has reason and admits the principle of causality. Reasoning from this principle in physical, mathematical or business affairs, he accepts legitimate conclusions without hesitation. but when the same process brings him face to face with moral and religious truth, the agnostic halts, hesitates; he cannot deny, he will not admit, he tries to sneak out under cover of unknowable. Oh! how unwittingly he confirms the old christian teaching, the universal experience, that fallen man rebels against any truth that implies restraint. Agnosticism, the aristocratic fetich of some, is but a mask for intellectual and moral cowardice, to escape the solution of the moral and religious problems of life that imply restraint.

There is another fetich. Evolution! Oh, what a name to conjure with! It alone can admit us to the temple of science—that is, of a certain kind of science. But its superstitious worship is on the wane. Twenty five years ago, it seemed to sway the scientific world. Today its swanlike note is heard only among the socialists.

What is evolution? In a word, it is the determination of higher from lower species. The evolutionist, if an atheist, postulates the existence of unproduced matter and force to which he ascribes the evolution of species. As a materialist, of course, he is antagonistic to religion and morals. If atheist, he admits creation, and his evolution is only the way in which he explains the carrying out of the plan of creation. In this is no opposition to religion and morals unless it includes man in the process.

Evolution is not an established scientific truth, but at most, only an hypothesis or theory. Even as a theory, what is its value? A theory to merit respect must fulfil two conditions: it must not clash with any known truth; and it must have some basis in fact. Does evolution fulfil these conditions? There is one appearance in its favor—the wonderful gradation in nature; so perfect, that the highest individual of a lower species and the lowest individual of the next higher species are said to touch. But does this necessarily prove that lower species developed into higher? Only by a violation of the laws of reasoning. The creator might have established that order, but did he? The possibility does not prove the fact.

Is there another fact in the universe on which evolution can build? Search throughout nature and experiment have failed to furnish one well established instance of natural or artificial transition from lower to higher species. Geology dug into the bowels of the earth to find at least some prehistoric fact to prop up evolution, but in vain.

Does evolution clash with any known truth? The principle of causality says that no cause can produce an effect superior to itself. How then can a lower species produce a higher? To get over the difficulty, a theistic evolution reasons again from possibility to fact; atheistic evolution vainly seeks props from environment, natural selection, survival of the fittest.

Evolution, though an unsatisfactory theory, is a fetish of many; but the next generation of scientists will smile, or pity the superstition of its present worshippers.

What is the relevancy of all this to my subject and the occasion? Though a fair-minded man, whatever his private opinions, will always respect the moral and conscientious convictions of others, yet if a worshipper of the fetiches of materialism, agnosticism or evolution, he will at times find it difficult to do so. This is especially true in the practice of the physician among catholic patients. Take one case—abortion.

If the physician regard the foetus as a more material thing, why should he hesitate to destroy it, if obnoxious? If he regards it as a living human being with a body and a spiritual immortal soul, having as much right to life as if it were twenty years old, he will realize that its direct destruction, for any reason, at any moment after conception, is murder; for the direct and wilful destruction of innocent human life, is the definition of murder.

They say it is an aggressor. How so? It never was capable of an act of aggression. But its very presence is an aggression. Then the parents are the aggressors, for they are responsible for its presence.

The mother has a right to life. So has the foetus. But the mother's right is superior. Prove it. Men are equal in their right to life unless forfeited by crime. The mother's life is more important and necessary. Perhaps. But expediency is not the law morality. But it is better to lose one than two. Not by the murder of one. But it will die anyhow. If, by the law of nature, there is no crime; if, by the act of man, there is murder.

Think of the suffering and danger of the mother, the bereavement of the father and of the other children. It is to be regretted but cannot be helped. It can be prevented. Physically, perhaps; morally, no; for a physically good end can not justify a morally bad means.

But the parents are willing. That makes them in heart murderers of their own offspring, but does not take away the child's right to life.

The civil law allows it in some cases and under certain conditions. That does not determine its morality. Such

arguments are unanswerable to the materialist, but idle or criminal to one who believes in the spiritual nature of the soul.

Here is but one illustration of how difficult materialism may make it for the physician to respect the moral law and conscientious convictions. Time will not permit me to pursue this subject further, but sufficient has been said to show that the knowledge and the opportunities of the medical profession offer great possibilities for good or for evil. I have no reason to doubt that the class of 1906 of the College of Physicians and Surgeons will use them in a way to do honor to their Alma Mater and to make themselves benefactors of the human race.

I wish you Godspeed in your noble career.

The Commencement Exercises were held at the Studebaker Theatre, Tuesday June 5th, at 2 P. M. The class attired in the classic Bachelor's Cap and Gown presented an inspiring spectacle as they marched into the large auditorium to the seats reserved for them and remained standing during the invocation by Rev. Morton Culver Hartzell. Seated on the stage were Vice-Dean Oscar A. King presiding, President Edmund Janes James of the University of Illinois, Dean Wm. E. Quine, Rev. Morton Culver Hartzell and members of the Faculty of the College of Physicians and Surgeons. The programme of the exercises follows.

Invocation	Rev. Morton Culver Hartzell, D. D.
Overture—"Jubel"	<i>Von Weber</i>
Doctorate Address and Charge to the Class	
	Dean Wm. E. Quine, M.D., LL. D.
Concert Waltz—"Charming"	<i>Waldtufel</i>
Presentation of the Graduating Class to the President of the University	
	Vice-Dean Oscar A. King, M. D.
Conferring of Degrees	
	President Edmund Janes James, Ph. D., LL. D.
March—"The Mascot of the Troop"	<i>Herbert</i>
Class Valedictory	George Robert Osborn

Selection—"Maritana" Wallace
 Benediction Rev. Morton Culver Hartzell, D.D.
 Des Fosse's Orchestra.

The Doctorate Address by Dean Quine which is reproduced below was received by the large audience with enthusiastic applause.

HOW TO BE A DOCTOR.

Doctorate Address to Class of 1906 by WM. E. QUINE,
 M. D., LL. D.

Class of 1906, Ladies and Gentlemen:

I congratulate you upon the completion of four years of arduous preparation for the duties of your chosen life work. I congratulate you upon living this day, for it is certain to stand out in memory the most clearly defined and the most triumphant of all the days of your professional career. I congratulate you upon having the experience of such a career before you rather than behind you; for experiences laden with joy and sorrows, with victories and defeats, with care and compensations are bound to enlarge your nature, soften your hearts and increase your value to society.

I welcome you to the extended arms and great benevolent bosom of the medical profession. I welcome you to a life of toil and ministry and sacrifice. I welcome you to exercise to the utmost limit of your power every capacity for adding to the sum-total of human life and human capabilities with which the Creator has endowed you.

This very hour will witness momentous changes in your relations to society. Its influence will lift you from the position of insignificance and disfavor which you now occupy as medical students, if public opinion is to be considered, and place you on the plane of equality before the law and of every member of the medical profession, where you will be confronted by the same obligations and the same responsibilities that confront the greatest of them all.

In your course through college you cannot have failed to notice that some had out ranked others in respect to the acquisition of professional knowledge. These honors may be due in some measure to differences in mental endowment, in some measure to differences in opportunity, but in the chief measure to differences in industry.

Some of you have approached the study of medicine with seriousness of heart and earnestness of determination that have carried you on year after year until you have reached the present position of pre-eminence among your classmates. But the qualities and activities of mind required for the study are not in every respect identical with the qualities and capacities of mind required for the success of the medical profession. The ability to acquire knowledge is one thing, and the ability to impart it is another, but the ability to use it with promptitude and power marks its possessor as a king among his fellows.

Knowledge is power. Without it the greatest man is as feeble and as useless as a child. With it the smallest of us all may shine therefore as the master of the situation.

Knowledge is power, but the value of it depends upon the mind that administers it. A mind quick in the acquisition and retention of knowledge may not be equally effective in the use of that knowledge for the welfare of the human race.

Of all the practical merits possessed by the successful practitioner I know none surpassing in importance the capacity for minute, careful, systematic, scrutinizing observation.

I have told you many and many time before, and I tell it to you now again, that a strange doctor in a strange community can have no better introduction to that community than he commands and compels for himself by giving minute, scrutinizing, thoughtful attention to the ailments of the sick, and writing down at the time each detail of the complaint and of observation. There is no greater difference than this between practitioners of medicine, and this makes all the chasm that exists between Doctor and Doc.

A scrutiuizing, systematic and thoughtful examination into every spot and blemish, every defect or perversion of function or of secretion, every malformation or displacement will command and compel the respect of the sick; who for the first time is consulting the newly arrived practitioner in that community.

You are not only to collect all the data you can by the exercise of the senses with which nature has endowed you, but you are to bring into play also those instruments and appliances which are used in the diagnosis and treatment of diseases.

Equipment is indispensable to the successful practice of medicine. You will find the prairies of Illinois, Wisconsin, Iowa and Nebraska becoming more and more thickly dotted every year with the laboratories of the scientific medical practitioner.

But when you have gathered all the information from interrogation and examination of the sick, another mental process is brought into play by which you utilize the information you have just gathered. Now comes the process of analysis, of determination of value, of picking elements of disease here and there, and sorting them into groups which will enable you to identify the disease by reason of the numbers of these symptoms.

This above all things is the test of the real successful, practical, genuine medical practitioner. Errors in diagnosis or failure to arrive at any conclusion at all are almost invariably connected with failure on the part of the medical practitioner to ascertain all that can be ascertained respecting the condition of the patient before you.

It is important for you to know that things are different from what they were a quarter of a century ago; that there is widespread intelligence in the community, and that now almost anybody is able to understand and understand accurately when he has received a thorough, systematic, thoughtful and effective examination.

If you would be a doctor be very slow indeed in reaching conclusions and letting these conclusions get beyond you.

One of the golden rules of medical practice is "never to express an opinion until you have the foundation for a good strong and sound conclusion." Physicians who are quick to offer diagnosis, often have to be quick in recalling them and setting themselves right before the community by changing their conclusion.

If you would be a doctor and retain the confidence of your people, guard against mischievous diagnosis that exaggerate, and are intended to exaggerate, the nature of the patient's ailments in order to magnify the importance of the services of the medical practitioner in promoting acumen.

If you would be a doctor and retain your hold on popular confidence and favor, you will also avoid other mischievous diagnosis in the direction of making it known to nervous, impressionable patients that there is a looseness in some organ of the body, abnormal displacement of some part, thus leaving upon the mind of such a patient that she,—it is always she,—is all disordered inside and that everything is loose and rattling around in her, where in truth the little physical defect may make no impression at all either upon the person's ailment or complaint or upon the life or health.

And if you would be a doctor and retain your hold on the community, avoid mischievous and unnecessary surgical operations. I yield everything in point of respect and admiration for the performance and attitude of the real surgeon. The real surgeon is the conservative surgeon. The man or woman who inflicts pain to save from greater pain, who imperils life to save from greater pain, who removes an abnormal part to protect the life and health is the real surgeon.

The real surgeon, more often than any other practitioner of medical or of other departments of the healing art, denounces the would-be surgeon and suffers the depredations of the would-be surgeon who sees in the practice of surgery means for self exploitation and appears to regard the great art of surgery exclusively as a means of revenue.

The real surgeon in every instance contemplates and is governed by the consideration of the best interests of the patient, and I would have you young practitioners with all the

pages of reputation still a blank, without a mark or blemish, set out in your professional career with an idea, single and exclusive, to the consideration of the first interests of your patient, rich or poor, and to the highest honor and glory of your chosen profession.

Quite aside from the facts and proof pertaining to the strictly professional aspect of your chosen calling, there are other facts and influences deserving of serious consideration which may exert a profound influence upon your position in your profession, your position in society and your practical achievements at the bed-side of the sick.

You are aware that the medical profession of this country is thoroughly organized, and you are aware of a society whose professional morals have been adopted by the organized profession, and is regarded as law by the medical practitioner throughout the land, known as the ethics of the profession.

I find in this noble institution the aduration that you are to unite tenderness, cheerfulness and firmness in your dealings with the sick and thus inspire all sufferers with gratitude, respect and confidence.

No, no, the prescription does not meet the requirements of the case at all. The way to win the gratitude of the sick is to be thorough, painstaking and sympathetic in all your investigations, and thoughtful to the utmost limits of the power of mental scrutiny in the assembling of the evidence of disease and the selection of a proper remedy.

The way to command the gratitude and confidence of the sick is to be true, is to be loyal, is to be unsparing of self, is to be controlled by consideration of the interests of the patient, and without regard to any question of self-interest or self-aggrandizement.

The way to win the confidence and favor is to do right. It goes without saying that the appearance and bearing of a doctor, that his manner and his methods in the sick room count for much in making an initial impression, but there is no formality of manner, there are no airs of professionalism, there is no distinctive method of dress which will atone for

in any degree, that of lack of attention in respect to the scientific details I have already endeavored to expound.

A doctor may be gruff, and grumpy, and uncommunicative in the sick room, he may be bright and cheerful and winsome and inspiring, and he may even be frivolous; but whether grumpy or gruff, though he be rough in speech and rough in appearance he may have infinite gentleness of touch and infinite patients in examining and scrutinizing into the condition of the patient. Manner or method may be of auxiliary service it is true, but nothing will take the place, and nothing can take the place, of the sound professional and moral integrity.

Consciousness of duty to the sick as well as application to your medical profession should guide you in every instance to determine your relation to those who intrust their lives to your care.

The position of the medical practitioner in society may be determined by his value to society. The time was when the medical practitioner in a rural community was looked upon as the circle of that community, sharing possibly all the wisdom and learning of the community with the clergy, but not conceding much to the clergy. Whereas, now the medical men in order to retain a position of respectful mediocrity must needs be of rather uncommon merit.

The schoolmaster is getting to be more and more obtrusive, when our state institutions are making bachelors of science out of farmers, and bachelors of art out of country merchants, so that a doctor on visiting a farm house may find the occupant of that house having a broader and more comprehensive knowledge of bacteriology and chemistry than the doctor has himself. The medical profession has some right to deplore the activity of the country schoolmaster who is undermining the confidence of society in this time.

The medical practitioner must needs be something of a man or woman to maintain a position of respectable mediocrity in any educated or refined community. The place occupied by a physician in the community will be selected

by himself. The standing of the medical practitioner in popular esteem may be presumed to be reflected by the standing of the average member of that profession. Some physicians exalt and enoble their calling; some pollute and degrade it; some occupy a high place in popular confidence and favor and are ever found identified with movements that tend toward the highest citizenship, the highest purity, the most extensive benevolence, and the best interests of all mankind. And other doctors there are who carry the sacred title of doctor into the slums and dark corners of great cities and pollute the title further by a practice of their own that cannot even be spoken of in such a presence as this.

What position are you to occupy in the medical profession? The way is wide open before you. Have any position you like if you pay the price, but no physician can hold a strong position in the confidence of the community who does not also occupy a strong place in the confidence and esteem of his professional brethren.

If you would be a doctor, strike right out as soon as you engage in the practical duties of your calling, to acquaint yourself with the highest ideals of the medical profession and to identify yourself with the wide-reaching benevolence of this profession. You must be identified with the interests of the profession itself; you must attend the meetings, or gather them, of medical men and women, for you will find no postgraduate work more valuable or more strengthening than that which comes from contact with the masters of the profession at great gatherings of medical people.

And those of you who will pass on into the rural communities let me caution you to be a little chary about your methods of dealing with the country doctor. It is a very great crime, you know, to be young; it is a very great crime to be a young doctor, for you know that all young doctors justly or unjustly are accused by their elders in profession of being audacious, uppish, conceited, impertinent and disposed to exploit miraculous cures, which in truth are not cures at all but mere exemplifications of the grace of God.

And when you engage in the country practice and come into contact with the real country doctor, do not set out impetuously to impart volumes from your fund of information to him, but be a little cautious and chary, remembering that he has been doing battle alone against tempest and torrent for many years; that he has been fighting single handed with the most alarming exigencies of the medical, surgical and obstetrical practice, and without assistance or the privilege of consulting the professor in that particular department; but single handed and alone must he do, and has he been doing for many and many a year, with all the appalling experiences and demand for reserve steadiness in times of peril that can ever come into the career of the medical practitioner. Take off your hat to the country doctor; make humble obeisance. He may be a little shy in the discussion of histology, bacteriology and chemistry, but he may nevertheless possess such a degree of readiness, of steadiness, and of practical skill under stress that may require of you many and many a year of heartrending and mind-racking experiences. The dear old country doctor, bronzed and bearded, rough and uncouth, he has fought many and many a heroic battle all alone with no witness excepting the Father above him and the divinity within. The dear old country doctor who wears wool sox in July and a straw hat and ear muffs in November, representing none the less the cleanest and strongest type of the real family physician. He is the real thing. Genuine and true, with a fidelity to duty that is unsurpassed and unsurpassable. He may well serve as a good example for the proudest of us all.

Compensation is the law of the universe. Have anything you want if you have the price. If you will work, and work, and work with such a measure of earnestness and determination as will take no heed of weariness, it may be possible for you or for me to reach the stature of a strong man, even among the giants of the profession. It is for you to make, each for himself, such a position in the community, such a position in the opinion of your professional brethren and sisters as year best power aided by unflagging in-

dustry and unflagging fidelity to duty may achieve.

The faculty of the College of Physicians and Surgeons has already certified to the president and trustees of the parent institution that each of you possesses a sufficient amount of professional knowledge to last you the remainder of your life. You merely have enough to begin the practice of your profession. The issue at stake is human life. Every consideration of self-interest urges you; the appeals of the helpless and trusting sick must impress you; the conscientiousness of the medical profession commands you, and therefore I charge you to spare no efforts in the direction of improving your value to the community by seeking in every instance to do the best that is in your power today, and by reflection and by study with the aid of mid-night oil strive to do better tomorrow, and still better on the morrow, and thus on to the end of time. This is what refers to the value of the light as estimated by men entrusted to your care.

You know now that much of the skill possessed by the greatest physician and surgeon of the medical profession has been acquired by work done in the charitable institutions and in densely populated localities, and done also in humble homes and cottages of the poor scattered throughout the dark corners of the great cities and in communities.

Nearly every member of the medical profession who has attained a pre-eminence owes it in a large measure to the poor who furnished his earlier patients and were his most loyal and devoted friends, and I would charge you that when you get to an age or period of activity and prosperity that you are never to forget that the greatest glory of the medical profession is in relation to the showers of benevolence it has been constantly heaping upon the poor and most miserable of God's creatures. Carry your benevolence everywhere and give to the meanest and lowest of God's creatures the same fidelity of attention, the same able skill, and the same measure of thoughtfulness as you would give to the most exalted member of the so-called privileged class.

In your ministrations to the poor it is not necessary that you should make very refined selection or to limit your attention to the worthy poor, or to the pious poor. Just lavish your attentions on the poor—the Lord's poor and the devil's poor with impartiality. Or if favor must be shown, let it be to those who need it the most, the devil's poor.

One of the fundamental features of the ethics of your profession calls upon you to uphold the honor and dignity of that profession, and I know of no way by which you can better uphold the honor and dignity of your profession than by upholding your own honor and your own dignity as men and women.

Never carry the name of doctor into any polluted atmosphere, nor have it spoken lightly of, or discourteously by irreverent or polluted lips.

I charge you above all things to live such lives of purity, of temperance and of personal cleanliness that you will be identified, not indifferently or half-heartedly, but seriously and genuinely, and with all the strength of your souls, with every movement in the community that tends toward the improvement or uplifting of the human race, so that when you approach the end of life and are taking stock of what is behind you and of what is before, you may turn and look backward and contemplate your career without shame, and then look forward without fear.

Men and women, it is left for me as the representative of the faculty to speak the final words. This hour will witness the disruption of our relations as teacher and student. Yesterday he was professor, today he is merely doctor; tomorrow you plunge into competition with him for the recognition and favors of the world.

As you leave the halls of your Alma Mater, I speak for myself, the president, and the officials of the institution, and bid you all God speed.

Let me admonish you once again, one and all, to make good. Make good to the divinity that is within you and to the divinity that is about you, and then I can, with a heart full of affection and hope and confidence, bid you God speed.

Men and women of the class of 1906, go out fearlessly and with rigidity and erectness of spinal column, knowing that justice will be meted out to you, that each will get what he deserves, and deserve what he gets before the close of life.

Now young people, the relations of intimacy and of friendliness, not unmixed with some of the warmth of affection, are now at an end, and speaking for my officials and for each member of the faculty of the College of Medicine of the University of Illinois, bid you God speed and good bye

The graduating class were then presented to the President of the University of Illinois by Vice Dean Oscar A. King after which the degree of Doctor of Medicine was conferred upon them by President Edmund Janes James. Following roll call the class of 1906 filed up to the stage to the music of the March "The Mascot of the Troop" and received their diplomas from Secretary Frank B. Earle.

The next number on the programme was the Class Valedictory by George L. Osborn, a masterly effort both in composition and delivery and which was greatly appreciated by the classmates of the speaker as well as their relatives and friends. Dr. Osborn's address follows.

CLASS VALEDICTORY.

BY GEORGE ROBERT OSBORN, M. D.

Friends, Members of the Faculty and Fellow Class Mates: As we observe the ceremonies of this occasion which mark the close of our college career a mixture of emotions fills our hearts. We are proud. We are glad. And prompted by the spirit of youth we are hopeful. Our pride, however, is tempered by an appreciation of how much we have yet to learn. Our gladness fluctuates when incidents of the past are recalled, and even our hopes are met by thoughts of the uncertainties of the future.

How much shorter the time seems as we stand today looking backward to the time when we started than it did

when we stood at the beginning of our journey and looked forward to this event. No doubt the reasons for this seeming difference lies in the fact that in looking backward we see definite landmarks, whereas in looking forward we saw between us and our graduating day only vague outlines of the periods by which we were to advance.

Only a few years ago were we plodding along in our preparations for entering upon our college work and all anxious for the time to come when we could experience the joys of college life. But no sooner did that happy day dawn than a new hope and a new ideal began to attract our attention and we knew that happiness would not be ours until we had attained our degree and could be classed with those whom we had long looked upon as being in the realm of continual joy and satisfaction; those who had a perfect right to be happy.

Yet, today, while we observe *this* joyous occasion and are being made welcome to that for which we have been longing, a feeling of unrest creeps over us and we realize that our ideal has moved farther on. How true, as some one has written, that "life is by abandonment." The little child longs for a particular toy, loves it and enjoys it for a few days then casts it aside and seeks enjoyment from other things. So common and so inevitable is this that we can all recall some time in life when we realized with a feeling of dread that the time was approaching when we would be told that we were too big to ride to "Danberry Cross." Yet the time came, and came so gradually and so in keeping with the evolution of our ideals that we hardly remember when the change occurred. Thus it is that a man with an ideal looks forward and is happy. He cares not for discomforts neither has he vain regrets so long as he keeps in mind the theme of his life.

So universal and so ancient is the subject of the value and beauty of a life governed by an ideal that it would be presumptuous for me to attempt anything new or original about it.

However, there are new things to be thought and new

things to be done, and the inspiration for the new thoughts and deeds must come from a contemplation of the accomplishments of those who have gone before us. Hence in a study of the life history of some of the masters of medicine whose work was the breaking of paths into the fields of knowledge we may get encouragement. And perchance there may be some one of us thus inspired who will climb to those heights where a fallen banner-bearer lies, and grasping the banner staff struggle on up crying "Excelsior." The indulgence in such hopes as we stand today at the beginning of these unexplored heights seems extravagant, yet no one knows the power of an idea in the mind of a confident and determined man. History affords so many examples of the fact that a man can do whatever he wills to do, that it has become an axiom.

The class of Nineteen Hundred and Six can already point with proper pride to one of its members who has attained first place in a contest for a position of honor and worth in the medical profession.

To the enthusiastic and untiring student and worker the field of medicine is both fascinating and unlimited. It furnishes an opportunity for the scientific, the benevolent, the sympathetic, the public spirited, yes, for every talent and inclination that is seeking exercise.

Aided by the knowledge and experience of our seniors and worthy instructors we have in the past few years been learning something of the duties of the life which is ours to live. And yet, it would be a precocious individual, inexperienced as we are, who would presume today to tell you much of the trials which we will encounter or of the pleasures which we will enjoy.

We have youth and friends to encourage us. An age is dawning in which men can accomplish more than they have ever accomplished in previous ages. In our minds has been sown the seed which we hope will grow and ripen into lives of beauty and usefulness.

To our friends and to the faculty we feel that our obligations are many. As we take up our work, mingle in, and

become an integral part of society, marks of appreciation will be shown our friends. But, members of the faculty, we wish to say that we feel very deeply our obligations to you. A child can never recompence a parent for having nursed it through the period of infancy, so we can not restore to you the energy expended in our behalf. It is our purpose, however, not to fail in the charges you have given us, and being successful, thus demonstrate our appreciation.

To Dr. Quine, our worthy dean, a special word of thanks is due for having given us throughout the entire year, the advantage of his good instruction and valuable experience. We know that from it we have profited much.

Fellow class-mates, it is natural that we should be hopeful and happy today. Bright plans fill our minds, and every one is anxious to be in pursuit of his ideal. And when we think of how for four years we have had a common purpose; of how ones experience has aided another; of how our associations have made impressions that can never be effaced; we then realize that our college life has been more than a study of books and that pleasures have been plentifully mixed with our duties.

The advantages of a large school are many. The College of Physicians and Surgeons of the University of Illinois is an institution of which we may justly be proud. Through the kindness of Dr. Steele and Dr. Quine we were, last fall, permitted to visit the university proper. Many of us were impressed that day as never before by the magnificence and grandeur of the institution. There were those stately building with their libraries, laboratories and lecture rooms all dedicated to the pursuit of knowledge and the development of good citizens. That campus! so large that it bespoke generosity; so naturally beautiful that it was suggestive of freedom and purity. And as we looked over the field that afternoon and saw that array of the best youths of the state of Illinois on military review, surely we could not help feeling that it was good to be there.

Yet, while we are proud of being graduates of the University of Illinois we are none the less loyal to our own de.

partment, the College of Physicians and Surgeons, and "Long may it live."

Not only are we going away from our Alma Mater, but we are today separating from each other. Perhaps the most valuable lessons we have learned have been those we have learned from one another.

Certainly one can not for four years be a member of an organization like the class of 1906 without having more faith in humanity and a deeper sense of one's duty to his fellow men. It has broadened our minds and enlarged our hearts.

To me this association has been a long and fascinating story, containing many characters of whom I have become very fond and I am loath to close the book.

The exercises closed with the Benediction by Rev. Morton Culver Hartzell.

The music was furnished by Des Fosse's Orchestra which rendered the various numbers with great skill.

The following members of the Junior class acted as ushers, Messrs. Bissell, Graybeal, Nelles, Disney, Mautz, Dav-enport, Thuerer, Leicht, Wagner, Roads, Lovell, Hen-neberry, Bundy, Allison and Conroy.

ALUMNI MEETING.

The 24th annual meeting of the Alumni Association of the College of Physicians and Surgeons was called to order by the president, Dr. J. S. Nagel, of the class of '98, at the Sherman House, on Tuesday evening, June 5th, 1906. The largest attendance in many years was present. The alumni were particularly pleased to see so many of the faculty members present.

The minutes of the previous meeting were read and approved.

The president spoke of the growing interest in the Alumni meetings and particularly of the closer relations in recent years between faculty and alumni.

The secretary spoke of the arrangement between the PLEXUS and the Alumni which was working satisfactory. Nearly sixty new members present subscribed for the PLEXUS. This arrangement assures the association of a steady income.

The treasurer and necrologist then read reports which were accepted and ordered placed on file.

The association then proceeded to the election of officers which resulted as follows:

President—Dr. C. B. King, '98, 983 W. Jackson Boul., Chicago.

First Vice President—Dr. G. J. Kaumheimer, '87, Milwaukee, Wis.

Second Vice President—Dr. J. J. Trembley, '95, Moline, Ill.

Secretary (re-elected).—Dr. John Weatherson, '00, 103 State St., Chicago.

Treasurer—Dr. T. B. Wigger, '86, 100 State St., Chicago.

Necrologist—Dr. P. H. Holmes, '03, 103 State St., Chicago.

Executive Committee { Dr. V. Josephson, term expires 1907
Dr. W. A. Evans, term expires 1903
Dr. W. S. Royce, term expires 1909

After the business meeting lunch was served and cigars passed around.

The president then acted as toastmaster and introduced the following:

Dr. Wm. E. Quine spoke on "Our College."

Dr. A. M. Corwin spoke on "Smoke."

Dr. H. T. Byford spoke on "Experiences in Cuba."

Other speakers were C. B. King, D. A. K. Steele, C. C. O'Byrne, Blake Baldwin, W. A. Husey, G. J. Kaumheimer, W. L. Smith, O. A. King.

The meeting adjourned about 12 o'clock. Among those present were:

Wm. E. Quine
W. S. Royce
John Fisher

F. Walters
C. W. Carter
R. F. Schwarty

Addison Bybee	C. B. King
Daniel Boal	P. H. Holmes
W. B. Martin	C. C. O'Byrne
G. Galloway	F. B. Earle
B. B. Beeson	J. S. Nagel
J. P. Taleski	C. L. Treadwell
L. B. Baldwin	B. L. Woods
H. W. Berard	G. W. Ross
B. Navashelsky	E. M. Wanicek
F. W. Wichman	G. H. Schroeder
M. H. Rice	C. C. Clement
A. Buettner	N. C. Morrow
W. Caron	F. B. Knudson
C. H. Phlfer	J. R. McCullough
J. H. Clancey	M. Lanstrum
H. J. Sears	R. E. Flannery
W. L. Smith	John Weatherson
H. T. Byford	F. G. Harris
G. F. Dydston	M. J. Klein
J. L. Nathanson	G. Wood
W. E. Gamble	R. Dakin
N. G. Darling	W. Lipman
J. Rost	A. M. Corwin
T. B. Wiggin	W. K. Yeakel
E. C. Nathan	H. R. Wallace
R. H. Brown	J. E. Buckley
G. Woodnick	W. Harsha
J. L. Albright	A. R. Johnston
E. G. Sepple	J. P. Way
W. Wood	T. Faith
E. Nelson	— Bagley
F. B. Lucas	R. N. Swindle
W. A. Evans	F. H. Conner
J. A. Cavanaugh	E. H. Ochsner
W. B. Hanlin	J. J. Straus
H. Goodwin	R. Vonder Heydt
S. M. Edison	J. E. Harper
S. J. Pollock	M. Myerovitz
W. C. Albott	C. K. Smith
S. A. Keller	C. Pence
J. E. Brosseau	G. J. Kaumheimer
E. Cutler	O. A. King
W. Beam	W. Lanterbach
W. Dougherty	E. A. Glenn
D. A. K. Steele	W. E. Miller

F. Rudnick
H. V. Thomas
F. M. Furstman
W. A. Pusey
G. Dods
H. B. Wentz

J. J. Tremblay
J. L. Abl
J. J. Hood
A. Gehrman
W. Fuller
R. Salomon

Our membership is now about 2500.

If you missed the last meeting you missed a good time.

Remember one-fifth of your PLEXUS subscription goes to the Alumni Association.

Send all items of interest about yourself or your classmates to the alumni secretary.

The PLEXUS is anxious to publish your interesting cases.

Send your subscriptions to the alumni treasurer, Dr. T. B. Wiggin, 100 State St., Chicago.

JOHN WEATHERSON, '00, Secretary,
103 State St., Chicago.

SENIOR NOTES.

A good many of the boys have stayed here to spend a warm time in the old building this summer. Our old friend Gahl, the world renowned comedian is here to furnish us amusement with his old time song, "I feel like I feel like."

Several of the boys after the exam in neurology wishing to give vent to their joy, retired to a near side inn. Many hats were demolished, yet as things of this kind happen only once a year, all was forgiven.

Davenport, Graybeal, Mautz, Nelles, Edmondson and Bartholomew are on Maternity service now and have been lucky in having a case every day. Hope the good work keeps up.

Several new members appeared the first day of the term of which many are from the Dearborn Medical School.

One year later we get ours and will wander forth seeking not worlds but disease to conquer and you can bet your last dollar that the class of '07 will make good.

Bissell is the fortunate man to have charge of Senior

Maternity work. The editor don't know whether to extend congratulations or condolences.

JUNIOR NOTES.

When the class of '08 attained the coveted title of Sophomores last year, there was a noticable swelling of heads and haberdashers reported an extremely active demand for hats of the larger sizes all over the country from New York to Oregon and Montana to the Gulf of Mexico and now another year has rolled past and we have become Juniors and instead of the chesty demeanor so noticable last year, we have acquired a professional dignity which, somehow, is wonderfully becoming. No more will the class indulge in the foolish, childish practice of flag rushing and kindred follies.

Lederer, Gilbert, Berry, Skwor, Hayhurst, Spear, Rosenzweig and Biwer, have so far reported for summer work, there are undoubtedly more to follow.

Tucker has left to spend the summer breaking horses and possibly sundry portions of his anatomy at the same time, we wish him the best of luck with the horses.

The pit appointments for the Junior year are as follows: House Surgeon, Berry; Assistant House Surgeon, Hutchinson; Anaesthetist, Schroeder; Historian, Pearce, and Pathologist, Spear. As most of these are not going to attend school this summer temporary appointments will be made for this period.

The class will gain quite a few new members from the present outlook.

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COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT

UNIVERSITY OF ILLINOIS.

CHICAGO.

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Contributions of matter suitable for publication are invited, and should be sent in not later than the 25th of the month previous to that of publication. The publishers will not hold themselves responsible for the safe return of MSS. unless sufficient stamps are forwarded.

EDITORIAL.

Another school year has passed and the members of the class of '06 have separated to their various fields of operation in quest of success in their chosen vacation, and none can predict what the future holds in store for them. Would that ours was the power to order success and to be sure that our order would be filled to the letter, for if we could so order it the men and women who have gone forth would have unbounded success in proportion to their efforts.

But as we have not the power to order destiny, we can

only express the hope that they may have the success due to those, who, through painstaking and sincere efforts, strive to win.

We believe that no better advice or admonition could be given them than that which they so often heard from the lips of Dean Quine "It is up to you; make good."

The PLEXUS takes keen pleasure in wishing the entire class success and in bidding them "God speed."

Bills will be sent this month to all subscribers who have not paid in advance, and we shall expect every one to be paid promptly. If you find any mistake in the label on the wrapper, which indicates the time to which you have paid, let us know and it will be corrected immediately.

Dr. Bernard Fantus, Professor of Materia Medica and Therapeutics of P. & S. College, left Chicago May 25th for his trip abroad. The doctor tarried a few days at Buffalo, N. Y., and left New York City on the steamer Vaderland, of the Red Star line, June 2nd, for Antwerp, from where he proceeds to Strassburg to enter the Pharmacological Institute of Strassburg University, to engage in research work with Prof. Schmideberg. The doctor returns in September and the PLEXUS takes great pleasure in wishing him an enjoyable and prosperous trip.

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BATAVIA, ILL., JUNE 20th, 1906.

CLEAN FINGERS,

Fingers. Five of them. Five on each hand.

And a nail on each finger to be kept trimmed and clean.

Oh, yes, I know all about that two finger business, that
"Gimme about two fingers."

But I'm not talking about that kind. Any old kind,
clean or otherwise, thick or thin, will measure *enough*.

One would be better.

Two fingers, and especially two fingers too much, have
got me into trouble more than once.

You see, two fingers, when I was a boy, meant water,
and a plunge in it.

It meant "come along," and I'd go, in season (and out
of season, perhaps) and then sit on the bank in the sun and
tousle my hair until it was dry 'gainst the time to be going
home. Et to Brute? There was well nigh a tragedy if we
didn't, huh?

Oh, those days of yore! How they come thronging
back to me again in the good old summer time!

Well, you have been there—if you were ever a boy.
Wasn't that swimming hole a dear old spot, whether a limp-
id stream, a mill pond or a clay hole filled up with rain?
You know, too, that when your face was not dried—scien-

tifically dried, that is, with a towel or the tail of your shirt, and sometimes when it was—there would be certain ear-marks, so to speak, streaks and clean ridges here, and dirty creases there, that somehow mother would catch on to, and then something else would catch on. Gee!

Somehow we felt it was worth the risk. There were risks, too, about shirked duty at home. It takes mighty strong will power in a boy to keep right on sawing wood or weeding the onion patch when a bunch of other boys appear in sight, each with two fingers up in the air. Say!

Now, when and where did the synonym of two fingers held up and swimming begin? My father was familiar with it over one hundred years ago, and my grandfather used to tell me how he knew all about it when he was a boy. In my estimation it originated with Noah's family and spread all over the world, for the sign is good all over this country and in other lands. Did Noah's *boys* originate it when they wanted to take a dive without putting the O M on?

But I'm wandering. I started out to talk about other fingers. What kind of fingers have you? Are they thick, short, and stubbed? Well, I can sympathize with you. They were just as good as any, however, as a boy.

But for a dentist, say, he wants the longest and slimmest that ever were made. And that is not all. He wants the cleanest, softest, gentlest fingers that ever were made, and then he wants to be careful—ever careful—how he uses them.

In some avocations we have a real admiration for a man who, full of energy to grasp the duties before him, spits on his hands and rubs them together before he tackles his job, but—

Well, a well bred dentist would hardly start in so vigorously as that, but—but I, and you, have seen things quite as bad in a way.

You know the dentist who has a habit of running his fingers through his glossy locks, or strips his whiskers, or repeatedly pulls out and twirls the ends of his mustache, and keeps right on at his operation.

Or he has a ticklish ear and, inserting a finger, vibrates it in a way to make an old rattle snake green with envy—if he could witness it—and he doesn't think anything of that. The patient may *think*—probably does. I hate to show him up to gaze, for he is somewhat rare, but you've seen him and I can't overlook him, and that's the fellow who frequently tweaks his snout and then—well, if there wasn't a limit to the stretch of his grisly proboscis I think he might go up to the bridge in his digital explorations, cross over and come down on the other side—and then go right back to “sawing wood”—if the patient don't jump and run. That fellow's place is back really sawing wood, or driving wagons of farm fertilizer. To tell the truth, he is very skillful, but he ought to have located among the Hot-tentots, or turned his attention to orificial surgery. He's bughouse.

I called on a dentist one day who dug down into a box of old human teeth to find one fitted to illustrate the wisdom he was trying to impart to his patient, and after handling it awhile he forgot to repair to his lavatory before proceeding with his operation.

Such a fellow—yes, fellow—is liable to pull open his own mouth and finger around to show up a crown that he put on for himself, and still forgot the necessary ablutions to make him fitted to proceed.

Speaking of soft, gentle fingers, I know an operator who is a positive freak in the opposite direction. His fingers are coarse, rough and horny, always; and the nails are scraggy and harsh, and if he is clean he don't look it.

As to gentleness of touch, he grabs—that's the word, *grabs*—hold of the mouth as though he had hold of an old leather pouch. Every move and touch lacks gentleness, and would if his fingers were soft as velvet.

Then, again, he makes about forty-five needless jabs and yanks with his fingers here and there about the mouth, and if there is a particularly sore spot or sore tooth he is sure to poke it good and hard to see if it really is sore. His nails, not well kept, cut into the gums and cheek. Again

and again he pulls open the mouth and pokes and looks, pokes and looks, in a long drawn out diagnostic quandary, before he decides his course of action. When he finally gets at it he may do a creditable piece of work, but -I don't know. I know that I'd rather risk a gentler man and a softer finger, If I were he I would wear gloves.

Well, we know one thing pretty well, that you can't keep nice, soft, tender fingers and do much finishing up of plates and coarse laboratory work, but you can keep your fingers clean.

I am glad to say this, the freaks I have spoken of are mighty few in dentistry. In these latter days of emphasis on sanitation and sterilization along the line of professionals who treat human ills, there is none in a general way, more careful, precautionary, particular and exacting than the up-to-date dentist.

They all know the assurance it gives each patient to see and know that hands are washed the first thing, though they themselves *know* they are absolutely clean. They know that it is wise to return again and again to the lavatory if there is the least occasion, and that no dentist should proceed with an operation after absenting himself for a few moments without first washing his hands—his fingers. Dainty fingers should mark the dentist as well as any charming lady, and the lady will mark the dentist—and remark later—anything remiss, certainly anything outlandish.

If you will take tainted money you are quite liable to stop and take some from someone who comes in during an operation. Remember it is filthy lucre. I tell them, "No, I can't touch it. Come in again when I have more time to sterilize it." (?) Oh, yes!

It is a mighty easy thing to do something that may contaminate the fingers or create a suspicion, at least unless one is eternally on guard. One's handkerchief comes into use so frequently that in that particular we should be exceptionally careful. A ready washbowl should be conveniently at hand, and one might say, at the very elbow of every dentist, that he may keep his *fingers* clean all the time.

Don't be bughouse.—*Tuller in American Dental Journal.*

SCHOOL OF PHARMACY. OF THE UNIVERSITY OF ILLINOIS.

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Professors Hallberg and Puckner and President Baer of the Alumni Association are attending the meeting of the American Medical Association in Boston.

Mr. Walter Schmitt, '02, for several years assistant in chemistry at the school has been appointed Superintendent of the Beef Extract Plant of Armour & Co. Mr. Schmitt has been engaged in chemical work for the firm for a year past.

Mr. J. H. Wehrley, '05, until recently employed at Patterson's Pharmacy, succeeds Mr. Schmitt as one of the assistant chemists in the laboratory of Armour & Co.

Mr. A. H. Clark, '04, recently passed the Civil Service examination for drug inspector at Chicago. Among those who passed Mr. Clark stands the highest. The appointment has not yet been made. Mr. Clark has been assistant in chemistry at the school during the last year.

The school has received from Mr. Ebert a considerable number of pharmaceutical books, also his prescription counter designed especially by him and used in the drug store at State and Polk streets for many years. Also several pieces of apparatus.

From the bureau of plant industry of the United States Department of Agriculture the school has received 25 samples of crude drugs grown by the department, these include: The roots of Belladonna, Burdock, Yellow Dock, Poke, Convallaria, Echinacea and Serpentina; the leaves of Belladonna, Stramonium and Digitalis; Hoarhound tops, Pyrethrum and Chamomile flowers; Poke berries, Paprika pepper, Japanese Chillies; the fruits of Caraway, Conium Fennel and Coriander and the seeds of Belladonna, Burdock, Stramonium and White Mustard. They present an unusually nice, clean appearance and the aromatics have the flavor well developed. Some of the samples differ considerably from the commercial drugs in color, due probably to differences in the time of collection and methods of drying and curing employed.

Of the four botanical excursions planned for the months of May and June, three have been held. The attendance has been rather less than usual, no doubt because of the difficulty experienced in getting away from business an entire day. The fourth excursion will be held June 28th, to East Chicago, Indiana. Those desiring to attend will meet at 63d street and Madison avenue, (Madison avenue station of the South Side Elevated) at 10:30 a. m. and there take the trolley car for Hammond.

VALEDICTORY.

By CLAUDE E. TILTON.

Every young man comes to the point where he must decide to what his future life shall be devoted. Unfortunately many put aside the question and pursue no definite occupation, and in the meantime life's years are slipping by. But the man who usually succeeds is he who decides upon a certain work, early in life, and devotes his entire time to its mastery. Success does not depend so much on the profession chosen as it depends upon the thoroughness with which that one is mastered. Most men if they exercise their choice select a profession which is not distasteful to them, but even so, many of our successful men to-day are engaged in

occupations which are by no means agreeable to them. In their younger days, they found themselves allied with an unpleasant line of work, but by constant effort they have nevertheless been successful and have outgrown their former distaste.

As to the choice of profession, there is no lack of ones to select from. On all sides is heard the cry for more and better men. The profession of Pharmacy is one that is very much in need of intelligent, up-to-date men. It is not a call for the multitude of uneducated men, but it is for men who are far advanced along all lines of general education as well as in scientific pharmacy.

The proper kind of training can be obtained only at some reputable College of Pharmacy, which means a large expenditure in time, effort and money. Many people, particularly those who have been successful by close application to mechanical pursuits, and who started in life's battle with the barest rudiments of an education, are prejudiced against college training, asserting that the course is largely a theoretical one, and that it gives little practical knowledge. They overlook entirely the laboratory work of advanced institutions using newer methods. It is undoubtedly true that a brilliant and ambitious mind will train itself instinctively, but that does not lessen the necessity for the instruction given in our technical schools where the theoretical work is closely supplemented by actual labor, and carried out by all, whether dull or brilliant. The great advantage of the college course is that it not only trains but also broadens the mind and to be successful we must be broad and liberal minded. The days of superstition, dogmatism and illiberality are readily passing. The student is so instructed that he realizes what vast fields of learning and research are as yet unexplored; he learns to be observant and acquire knowledge at all times and from all things. And if our colleges succeed in stimulating the mind of the student to the point where he begins to ask questions as to the why and wherefore and where he makes an effort to answer some of these questions by personal investigation, they certainly

will have achieved a great success and will have benefited the student and the whole of mankind.

However we must not consider a college or technical training as the only important factor. An education if not used, is worthless. And the man who can quote facts and answer certain questions may not be any more of an educated man, than he who can find required information by using his text-book. The greater part of an education depends upon the ability to properly use books. It is unnecessary to remember all the facts, but we are well equipped if we know where to find them exhaustively stated. Many men,, we admit are successful who have never been within a college but how much greater would their success have been had they possessed a college training, is a subject open for speculation. Certainly a college education is of the greatest benefit if not an absolute necessity to the ordinary person, in the pursuit of success.

To-day no profession offers greater inducements to the bright young man than does the profession of pharmacy. Each member of this class after deciding to pursue the practice of pharmacy, realized that a college education was almost indispensable to him. We selected the School of Pharmacy of the University of Illinois, as the one best adapted to our needs and at the end of two years' close application, we find that we made no mistake.

This class first assembled one bright morning in the fall of 1904 in the first floor lecture hall. Coming from all directions, one even from "the land of the rising sun" we were nearly all strangers to each other. Our first impression was of the tall professor who assigned us our seats. We liked him at once and during the two years association we have had no reason to have anything but praise and appreciation for him.

Our first year's course was an uneventful one, and by the time we had become well acquainted, school closed and we scattered to enjoy our vacation and prepare for the following term.

When we again assembled, to take the Senior course,

we saw many of our old friends, but many more were absent. They had dropped out, some to return later, others never to conclude their study. During this part of our course, we became well acquainted with each other, and formed many friendships which we hope will continue indefinitely. Although our work demanded close application, there have been moments of association, unconsciously spent in weaving memories and ties that bind. We have seen moments that were anything but sunshine, although many amusing things have taken place during the last seven months, which have cheered us and lifted the gloom of threatening storms.

Among the new members of our class were two young men who were always being funny, so much so, in fact, that at times they became a disturbing element. As a reward for their labors we bestowed on them the title of "The Class Jokers" and hope some day to know them as professors of pharmacy.

Others in our class also showed special talent along certain lines. One had a great power of oratory, which he used at each opportunity. We shall expect to hear of him later as a lawyer of prominence or a favorite stump speaker.

Another student has become famous for his art portraits of professors and students. He aspires to the position of head cartoonist on one of our daily papers, and as such he hopes to be able to support his increasing family in comfort if not luxury.

There has been quite a contest among several students, as to who could produce the best mustache. The specimens submitted were so minute that the judges have been unable to select the winner, but mustaches seem to be in favor with all, but one.

Several times each week for fourteen months we have listened to our pharmacy professor as he endeavored to pronounce those big latin names, which we never did like, and in the future we shall try to avoid. As he *never* uses a dictionary he has a pronunciation all his own, and we were not always able to understand him. He was the only professor who always had some anecdote to brighten each lect-

ure, but even then some of the boys could not remain awake—hereafter may they rest in peace.

During our course in botany and materia medica we have listened to several lectures on evolution and mythology, which served only to punctuate our regular course. The professor has succeeded in creating quite a liking for plants among many of our class, who, at first, thought botany was a study suited only to young ladies.

Materia Medica came and went so fast that we could only grasp the main points together with some valuable hints, which we hope to turn to useful and profitable purpose later on.

One important fact has been taught us by our chemistry professor, "the more of this, the less of that" and "the more of that, the less of this." We have also been advised not to worry about some certain thing, being told that it would all come to us later and it usually did—on examination day.

While all these things have been transpiring we have been slowly progressing along the rocky road of education. We have been laboring toward a definite end—the goal of graduation. Many times we have seemed hopelessly far away and were almost ready to give up, but each day's work completed has advanced us step by step to a successful finish. By constant study and perseverance we have safely passed through all barriers and surmounted all obstacles. We did not start expecting an easy path, because nothing worth having is ever gained without a struggle, and the fruits of victory are much sweeter because of the labor required to obtain them. We have at last come to the crowning event of our college career and it is with a feeling of pardonable pride that we now survey the path we have traveled.

By, no means, however, must this be considered the end of our pharmaceutical education. So far we have been learning how to acquire knowledge. Our work here has laid the solid foundation upon which we shall be able to build the tower of our professional career. But we must not cease to use what we have learned, for if not used we

will soon lose all. As one of our professors has said, "There is no such thing as absolute memory, it is only by repetition that we retain facts, and we would soon forget our alphabet if we ceased to make use of it."

From this time forth our advancement will depend entirely upon our own study and investigation. We shall no longer be able to depend upon our professors to point out the way, but by close observation we shall be able to amass much knowledge and to make the best use of what we have learned while under their guiding influence. We must keep abreast of the times or we shall be pushed aside in the forward rush of this twentieth century life.

Every man who chooses a profession, should endeavor to better that profession by his connection with it. So it should be the aim of each of us to advance the profession of pharmacy in all possible ways. This can be done by strict adherence to the precepts given us during our course. By striving for higher ideals we shall rise above those who are content with lower standards, even though we fall short of our objective point. The arrow goes farther when shot at an elevation than it does when aimed horizontally.

Let us then as a class resolve to use all our strength to elevate the profession of pharmacy and we may hope to see larger results. Many things impossible for one man, readily yield when many act in unison. So with us by acting together we may achieve things which to any of us alone would be impossible.

We have come to the time when we must sever the bonds of association formed during our course, but may our friendship never cease. We are all glad to have successfully completed the prescribed course. There was no one who did not breathe a sigh of relief when the last examination was finished. The work has not been unpleasant, but the knowledge that a difficult task has been satisfactorily completed always brings a sense of gratification. We cherish most what was difficult of attainment. We have succeeded and may we always find inspiration for future work when we revert to the hours spent together in try-

ing to prepare ourselves for still greater undertakings.

We now scatter to all parts of the country, one to far off Porto Rico, one to Mexico and others to almost every state in the Union, there to pursue our own path in life. We feel that we are well equipped for the successful practice of pharmacy, but whether we shall be successful or not depends largely upon the thoroughness with which we can apply the problems of school-life. If we have completely mastered and performed all tasks here we shall be rewarded by success in times to come.

We owe much to our professors for their never ceasing assistance along the more difficult places. Without their aid we could never have attained this distinction. To cover the various subjects as they have been done requires utmost thoughtfulness, consummate knowledge and methodical arrangement. They have endeavored to fit us for a successful career, and having done all in their power, it only remains for us to do our part and prove ourselves worthy of their determined and untiring efforts. In behalf of the class I wish to thank the faculty for the many kindness they have shown us and for the personal encouragement many of us have received.

And now, fellow-classmates the hour has come for our final parting. For the last time we have met together to listen to the words of wisdom and instruction from our professors—henceforth we must depend upon ourselves. We all wish to achieve success and as we go forth from school into the busy paths of business life, we all think we know its cost, Study and Perseverance. This motto is the key which will unlock the many sealed problems before us. It may become as powerful a talisman with us as did the magic words "Open sesame" with Ali Baba.

And although we will not meet again as the Senior Class, let us not forget the great class, built up from all classes of this time honored institution: The Alumni-Alumnæ Association of the University of Illinois, at whose meetings our old time friendships may be perennially renewed. Remember: "Studio et Perseverantia."

The University of Illinois

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MEDICAL DEPARTMENT OF THE
UNIVERSITY OF ILLINOIS.
CHICAGO.

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BATAVIA, JULY 20th, 1906.

NO 7.

ILLINOIS STATE BOARD OF HEALTH.

May 23-25, 1906, Examination.

CHEMISTRY.

1. Complete this formula, give name of compounds and resultant compound: NaCl plus H_2SO_4 equals NaHso_4 plus?
2. Complete this formula: 2KI plus MnO_2 plus $2\text{H}_2\text{S}$. O_4 equals K_2SO_4 plus.....?
3. What do the following symbols and formulae represent: Sb. , Au. , Mn. , MnO_2 , NaClO_3 , HNO_2 .
4. Name and give formulae of three compounds of oxygen and nitrogen.
5. What is formed if hydrochloric acid is neutralized with sodium hydroxide?

ETIOLOGY.

1. Give the etiology and symptomatology of cerebro-spinal meningitis.
2. Give the etiology of cerebral embolism and thrombosis? Where does the embolus usually originate?
3. Give the etiology and symptomatology of diphtheria?

HYGIENE.

1. In what way can immunity from small-pox be acquired? How would you manage a case of small-pox?
2. What rules and regulations or methods would you recommend for the maintenance and improvement of health of children while attending school.

(A) PHYSIOLOGY.

1. What quantity of blood does each ventricle of the heart contain?
2. Name the ventricles of the brain and state where each is situated. With what does each communicate?
3. Where are the glands of Lieberkuhn found and how many are there to the square inch?
4. Name the salts of the bile and of the blood.
5. Describe the nutrition of the embryo.
6. What is the location of the center of speech? What may be the effect of injury to this center?
7. How is the body temperature maintained regardless of varying temperature of the surrounding air?

NEUROLOGY.

1. Describe chorea.
2. Differentiate paralysis agitans from cerebral sclerosis.
3. Differentiate external pachymeningitis from necrosis of bones of skull.

ANATOMY.

1. Describe one of the dorsal vertebrae and state how it differs from one of the lumbar vertebrae.
2. Describe the sternum giving its chief muscular attachments.
3. Give the origin and insertion of the deltoid muscle. Give the action and nerve supply of the deltoid.
4. Where and from what does the facial artery arise. Name four of its branches.
5. Name the membranes enveloping the brain, from without inward, give the general character of each membrane.
6. Briefly describe the Gasserian ganglion and give its exact location.
7. What is the Eustachian tube? What is its length and direction?
8. What are the differences between the right and left lung?
9. Describe the prostatic gland.

10. Into what groups are the superficial inguinal glands divided? Which of these groups would be affected by an infection of the external organs of generation.

MATERIA MEDICA AND THERAPEUTICS.

1. What remedies would you employ in case of cerebral apoplexy? Give dose, mode of administration and indications for use.

2. Name two drugs which increase the alkality of the blood plasma. Explain their mode of action and therapeutic indications.

3. Name one or more drugs which, either directly or indirectly, increase the quantity of haemoglobin in the blood corpuscles when it is deficient. Write a suitable prescription.

4. (a) Give the names and doses of two drugs increasing the force of the contraction of the heart; (b) the names and doses of two drugs which slow the pulse and diminish its frequency; (c) names and doses of two drugs which increase the frequency of the heart beat.

5. Give the names and doses of two drugs which contract and two which dilate arterioles, giving indications for use.

6. Give the names of three drugs which cause increase of amount of urine excreted, explaining action of each.

7. Give the names and doses of two substances which cause alkalinity and two which increase the acidity of the urine.

8. (a) Name two drugs which act as sedatives to nerve endings. (b) Name two which act upon nerve trunks and two which act upon the spinal cord, stating in the two latter whether they act as stimulants or sedatives.

9. Name one drug which dilates and one which contracts the pupil giving indications for use of one of them.

10. Name all the general anæsthetics with which you are familiar in the order of their safety, naming the safest first.

PATHOLOGY:

1. Give the general pathology and mention the varieties

of goitre. What are the prominent symptoms characteristic of exophthalmic goitre?

2. Under what conditions does oedema occur?

3. What pathological changes take place in the blood in malarial fever? Technically what is meant by the term "paroxysm" as applied to intermittent fever?

4. What are the successive pathological changes in chronic endocarditis?

5. What are the characteristic bone changes in rachitis?

BACTERIOLOGY:

1. What is traumatic infection? How does it take place? How can it be avoided?

2. Differentiate between septicemia, pyaemia and toxemia.

3. Describe and give characteristics of the bacillus mallei.

4. Describe and give the characteristics of micro-organism of malaria.

5. Describe the methods of culture and straining the bacillus of diphtheria.

SURGERY.

1. Name the varieties of wounds and give general indications for treatment.

2. What is pus? How is it formed? What are the varieties of pus?

3. Give points of differentiation between malignant and benign tumors.

4. Give diagnosis and treatment of fracture of the patella.

5. What are the varieties of dislocation of the shoulder? Give treatment of one of these.

6. What is Pott's disease? Give Symptoms.

7. Where and how are gall stones formed?

8. What is the surgical treatment for an enlarged thyroid? What are the dangers of operation?

9. Give symptoms and diagnosis of renal calculus.

10. Give preparation for and technique of an aspect

laporatomy.

PHYSICAL DIAGNOSIS:

1. How would you differentiate gastric ulcer from gastric cancer?
2. Define bronchophony. Define pectoriloquy. Define aegophony.
3. How do you differentiate endocarditis from pericarditis?
4. Differentiate thoracic aneurism from mediastinal tumor.
5. Give the physical signs of cardiac hypertrophy.

OPHTHALMOLOGY AND OTOTOLOGY.

1. What are the symptoms of interstinal keratitis? What is a frequent cause of this disease?
2. What is the treatment of simple ulcer of the cornea?
3. What are the possible results of otitis media?

PEDIATRICS.

1. Differentiate measles from scarlet fever.
2. Give the cause and prognosis of icterus neonatorum.

OBSTETRICS.

1. Give the anatomy of the Fallopian tubes.
2. Describe ovulation. Describe fecundation.
3. Give the diameters of the foetal head.
4. How would you manage an occipito-posterior case?
5. Describe the management of a breech presentation.
6. Give the mechanism of right-mento-posterior position.
7. What are the indications for version and in what ways may it be performed?
8. Give treatment of mother and child during first five days after labor. What complications may arise during this time?
9. Give symptoms and treatment of puerperal eclampsia.
10. What are the signs indicating death of the foetus in uterus? What is the treatment of such a case?

(A) GYNECOLOGY:

1. Give the etiology, histology and complications of vaginitis.

2. Give the differential diagnosis between a fibromyoma in the anterior wall of the uterus and pregnancy of the fourth month.

3. Give etiology, symptoms and treatment for a vesico-vaginal-fistula.

4. What are the symptoms and physical signs of pelvic cellulitis?

5. What are the physical signs and common results of acute peritonitis?

6. What methods would you adopt to restore a retroverted uterus?

(B) LARYNGOLOGY & RHINOLOGY.

1. What are the appearances and effect of the destructive action of syphilis of the larynx?

2. What are the common causes of epistaxis? What is the treatment of epistaxis.

(C) MEDICAL JURISPRUDENCE.

1. Differentiate between melancholia and dementia.

2. Describe a corpus luteum and define its value as evidence in legal medicine.

ECLECTIC PRACTICE OF MEDICINE.

1. What is pathology? What is general pathology? What is special pathology?

2. Define the different classes of the causes of disease.

3. Give the diagnosis and treatment of simple continued fever.

4. What is typhoid fever? Give its causes.

5. Give the definition, cause and pathology of typhus fever.

6. What are the symptoms of the different varieties of pernicious fever?

7. What is measles? Give its causes and pathological anatomy.

8. What are the complications of smallpox? Give its diagnosis and prognosis.

9. What are the symptoms of chronic gastric catarrh? What is the treatment?

10. What are the symptoms, duration and prognosis of gastric ulcer?

The questions should be folded with the answers. Candidates are not allowed to copy the questions.

IMPORTANT NOTICE.

Unusual care has been exercised by the state Board of Health to make the foregoing questions clear and explicit. It will not be practicable to make any further explanation in regard to the questions, during the examination.

The ability shown by the candidate to properly interpret the questions will be given due consideration in the grading of the answers.

A NEW METHOD FOR DETERMINATION OF LEAD IN THE URINE.

BY ARTHUR LEDERER,

Demonstrator of Chemistry, College of Physicians and Surgeons
(University of Illinois).

CHICAGO.

Roprint from The Journal of the American Medical Association.

In examining two specimen's of urine for lead in Prof. Charles S. Williamson's clinic at the college of Physicians and Surgeons, Chicago, I experienced great difficulty in using the different methods, inasmuch as some take too much time, some are not sufficiently sensitive, while others require expensive apparatus. Considering the fact that the amount of lead found in chronic poisoning rarely exceeds 10 mg. per liter, the method must be exceedingly sensitive. The methods heretofore used are that of Fresenius and Babo as described in v. Jaksch "Klinische Diagnostik," and that given by E. E. Putman in Keating's "Clyclopedia of the Diseases of Children." Both of these methods require a great deal of time and considerable chemical training. Two other methods, very simple, but not sufficiently sensitive, are those of v. Jaksch¹ and I. H. Abram².

1. "Klinische Diagnostik."

2. The Lancet, London, ———, 1897.

An electrolytic method was worked out by S. R. Trotman and F. H. Jacob.³

This method has several advantages and does not consume a great deal of time, but requires an expensive platinum dish and an electric battery, neither of which is apt to be in the possession of the average practitioner. Other metals, if present in the urine, may lead to an erroneous conclusion.

It is my intention to find a method which would be reliable, free from fallacy, sufficiently sensitive, which could be performed by every physician, required but little chemical training, and for which the material could easily be obtained. As the destruction of organic matter is absolutely necessary I found potassium persulphate in sulphuric acid solution the best means for this purpose. Strong sulphuric acid alone does not work satisfactorily and potassium chlorate and hydrochloric acid work so slowly and give off disagreeable fumes of chlorine gas.

Five hundred cubic centimeters of the urine to be examined are placed in a porcelain dish (lead free) or in a sufficiently capacious beaker, and about 70 c. c. of concentrated sulphuric acid (free from metals) are added and the combined amounts are heated over a Bunsen burner. Potassium persulphate is added in small portions to the amount of 20 or 25 grams. The urine which is colored red by the addition of the sulphuric acid is only slightly yellow when boiling starts; the urine, probably cloudy before, almost instantly becomes clear and transparent. It is then evaporated to about half its volume.

Should the solution become cloudy during evaporation a small amount of concentrated sulphuric acid is added and the boiling continued for about ten minutes. A few crystals of potassium persulphate should be added in case the urine darkens again during evaporation, but care should be taken to remove the burner first to prevent the liquid from boiling over. This procedure is only occasionally necessary as the

3. British Medical Journal, ———, 1903.

urine generally remains clear, and slightly yellowish. After the urine has evaporated to about 250 c. c. it is allowed to cool and about 250 c. c. alcohol (90 vol. per cent.) is added. It now is allowed to stand about four hours in a cool place; during this time the smallest amount of lead is precipitated as insoluble sulphate. The evaporation of the urine can also be carried on till less than half its volume remains, but an equal volume of the alcohol should always be added.

The solution is then filtered through a quantitative filter, washed with hydrochloric and fluoric acid, and the beaker or dish carefully washed out with alcohol. Washing the filter is only necessary once to remove coloring matter. A clean small beaker, or test tube, is put underneath the funnel, and a small hole is punched through the tip of the filter with a clean glass rod. Everything on the filter is then washed down carefully with distilled water from a wash bottle, care being taken not to get too much fluid. If carefully handled not more than 10 c.c. are required. Care also should be taken to remove all particles left on the small glass rod. If considerably more than 10 c.c. is used the solution can be evaporated again if a quantitative determination is wanted. For qualitative determination it does not matter if a few c.c. more or less of distilled water are present. The solution in the test tube now contains all the lead of 500 c.c. urine, if such was present, in the form of an insoluble sulphate of lead. The amount is sometimes too small to be observed as a precipitate with the naked eye. It might be only a slight cloudiness, hardly visible. The solution is heated over the Bunsen burner and crystals of sodium acetate are added till the solution appears entirely clear and transparent. After the solution is cleared up it is allowed to cool and hydrogen sulphid gas is passed through it. The slightest yellowish-brown discoloration proves the presence of lead.

The test for lead with hydrogen sulphid gas is one of the most sensitive in analytical chemistry. To prove the limitations of the test I performed several experiments and found that 2 c.c. of a 0.002 per cent lead acetate solution

made up of 10 c.c. with distilled water still gave a very slight yellowish discoloration if the solution is looked at from above. This would correspond to 0.00002 gm. lead. It is preferable to pass the gas also through a test tube containing the same amount of distilled water, inasmuch as a slight discoloration can be easily differentiated by comparing the two solutions after the gas has been passed through. Five minutes is sufficient for the passage of the gas.

A great advantage of this method is that even if bismuth is present in the urine it will not interfere with this test, neither will any other substance likely to be present. By comparison with artificial lead solutions containing 1 mg., 2 mg., 3 mg., etc., of lead per liter, a simple quantitative colorimetric method can be established (One part lead acetate crystal contains 0.54 parts of lead.)

Sensitive as the reaction is, it takes but little training to perform the described determination most accurately. If 500 c. c. are taken originally the amount of lead found must of course be multiplied by two in order to get parts per liter. In the two specimens mentioned in the first part of this article I was able by this method to detect 5 mg. in one case and 3 mg. in the other.

The advantages I claim for this method are accuracy of the determination, rapidity with which the determination can be made, and simplicity of technic.

OBITUARY.

Dr. George W. Johnson, P. & S., '95, died at Augustana Hospital, of Appendicitis June 4th. He was 41 years of age, and had been in the practice of medicine 7 years. Soon after graduation he served nine months as an interne at the Cook County Hospital, taking the place of an interne who was ill. After leaving the hospital, he was appointed House Physician at Dunning, where he remained for 4 years, and did work of such high order as to attract especial attention.

In 1899 he bought the home and practice of the late Dr. Marvin, where, because of his great energy, he not only

held but added to this already large business. He belonged to the Odd Fellows, Knights of Pythias and had attained the thirty-second degree in Masonry. We cannot help but admire the splendid qualities possessed by Dr. Johnson, when we read the following words spoken at the funeral services, by his brother, Rev. J. E. Johnson, Waterloo, Iowa.

"We are gathered here today not merely as friends and neighbors but as relatives—members of one family—made so by the common bond of a great sorrow.

"The deceased was a brother beloved. Seven years he lived among you. He ministered at the bed-side of your sick and dying. He brightened your joys and lightened your sorrows, and as the guardian of your homes he has many a time beaten back the relentless Conqueror. In your intimate association with him you long ago discovered his faults, for he had many, but they were largely his virtues carried to an extreme. His noble qualities of heart and brain are likewise known to you. It is of none of these I would speak, but rather of the things unknown to all except his most intimate friends.

'There is a history behind the life of the deceased against which I would have you place his later triumphs. Of this history I am qualified to speak. For thirty-two years we slept together, we played together, we worked together on the farm, together we suffered on the frontier, and together we struggled to get an education. I knew him as no living soul knew him; I knew his temperament, his ambitions and the obstacles he overcame, and I loved him as no one loved him.

'He conquered adversity. He was the eighth child in a family of ten. When the deceased was sixteen, adversity swallowed up his father's fortune. But his father was a man of iron. He bundled up what little he had left, and with his two youngest boys went in a "prairie schooner" into the wilds of North West Nebraska, took up a Homestead and began life anew. Here the young boy fought with poverty and hunger, with the blizzard, with fierce

electric storms, and with blinding storms of rain and hail. At one time the provisions were all exhausted except a bacon rind. This precious bit was put into the pot and boiled and then taken out and carefully hung on the side of a tree until the next meal, and thus became the subsistence of the little group for some days. Many a week passed without sending a letter home because there was not money enough to buy a postage stamp. But he conquered, got hold of a piece of land which he afterwards sold as a starter toward college expenses.

“He was now twenty-five years old. His mother could not write her name, but she could read. His father had only a meager education, and the deceased had only one month in the year for school, but he thirsted for knowledge. At this mature age he entered the preparatory department of Cornell College, Mt. Vernon, Iowa. He began with the study of Simple Fractions, what is a Noun?, and the study of the Geography of South America. Here again he met his old foe, for his money was soon spent. He swept rooms, dusted blackboards, scrubbed floors, carried wood up two flights of stairs, and rang the college bell for the various classes till the day of his graduation in 1893. How he managed to get through the College of Physicians and Surgeons I do not know. I only know that he walked many a weary mile in your city because he had to, and wore soiled linen because he had no money to get it laundried. But what matters that now, he came off victor once more and graduated with honor in 1895.

“In his family history, there is a marked stream of melancholia. In the days of his ignorance and adversity this set in hard against him many a time. His struggles were secret, but they were intense. I can still see him as he tried to stem this awful tide. Sometimes it would seem as if he must go down, and then he would bring his great will power into action and struggle on. In later years he fought intelligently and more successfully until I think he fully conquered this weakness.”

Dr. Johnson leaves a wife and one child.

As a student he did first class work, and stood high in the estimation of his class. His energy, his ability, and his sunny nature won for him many friends, who will hold in memory his many virtues, and regret the loss of so valuable a life.

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FUNDAMENTALS.

There are two things in which the average practitioner shows a glaring deficiency, and in both of them he begins to develop this shortcoming almost from the day of his graduation. They are a thorough mastery of the progress in the fundamentals of the science of medicine and an intelligent and comprehensive study of medical literature. The man who avoids these shoals of deficiency guardedly and strenuously, will avoid a couple of the most dangerous causes of professional wreck.

A distinguished practitioner once confessed to us that as his medical studies had been always along clinical lines, he was often brought face to face with the unpleasant fact that he was woefully ignorant of anatomy, physiology and other fundamental sciences. As to what advances were being made in these sciences he was completely in the dark. The specialty which this gentleman was practicing made such elaborate demands upon physiology that any well-trained physiologist would have discovered in a few moments' conversation with him that his clinical knowledge here and there was a matter of mere memory and unexplained observation and not a matter of physiological or physiopathological demonstration.

In a recent competitive examination a neglect of fundamental knowledge was most strikingly exhibited. Two questions, simple yet of equal importance were given. The first involved a mere clinical differentiation between two well known diseases; the second made an extensive demand upon the respondent's knowledge of anatomy and reasoning from physiological data. To the first question a high percentage of correct answers were returned; to the second question scarcely a single correct answer was given and only the liberality of the examiners allowed any of the jokers to receive a passing mark. The first question called for merely good memory; the second question demanded on the part of the one being examined actual knowledge and careful reasoning.

How many general practitioners today know what progress is being made in anatomy, chemistry, therapeutics physiology, psychology, development, and other sciences that bear upon normal organisms all their reactions to environment? Indeed, how many general practitioners keep sharply abreast of the latest discoveries in pathology, pathogenesis, etiology, symptomatology and prognosis? And yet these men are still trying—trying where other better informed men are actually doing—to prevent all overcome the ravages of disease. They are struggling to make wright what is wrong, without knowing what the

right really is. In other words they are like the little miss who wants to play a "piece" on the piano but who can't perform a little five finger exercise; they are like the school boy who thinks he can do a mathematical problem without being acquainted with the multiplication table; they are like the parlor elocutionist who attempts miserably a scene from Shakespeare because she hasn't taken the trouble to learn to read even passably a Mother Goose rhyme; they are like that famous pseudo-astronomer often, the human infant, who reaches out for and studies in its peculiar infantile way the big round moon but who naturally cares nothing for and has no interest or capability to learn the facts or fundamental astronomy and optics.

It is sad but true that men too often are but grown up children all in their neglect of fundamental knowledge while struggling to acquire advance knowledge they reveal their child-like tendencies.

To acquire and retain this fundamental knowledge, especially in this day of rapid and far-reaching scientific progress, demands a constant course of persistent and extensive reading. Medical literature is the richest scientific literature in existence. No one can pretend to compass it entirely. Both in quantity and quality it is steadily advancing. Facts and discoveries are being almost daily put on record. Explanations and theories and hypotheses are unseasingly being put forth, some to stay, some to be demolished. All this the live, wide awake professional man ought to know something about. As a matter of fact, he too often practises a steady neglect of it, on the specious plea that it is too new too theoretical and too inadequately established. Such a plea again is an evidence of mere childishness, and unworthy of a man professing to be a scientist. It is the plea of the idler the incompetent and the makeshift.—"Everything that is human is of interest to me" was the famous line of the Roman dramatist, Terence, and in a much more emphatic way the medical man ought to say and act, everything that is medical is of intense interest to me. Some men say they have no time for large

reading on account of the exactions of a large practice. That again is another specious plea for, the busiest men are readers and those who make the plea will usually be found to waste many precious homes with gossip cards and dawdling.

We have sometimes felt that after graduation a physician ought to spend his first two or three years in a post graduate course of reading. We believe in most instances it would be more profitable than idling about a hospital or working up "social" practice in the corner grocery. The first two or three years of the young doctor are not very exacting from the standpoint of actual practice of medicine. Few have an internship in those years. Most of them sit or "hang around" their offices. The microscope and an occasional clinic will take up some of this idle time but there will be many and many an hour that could be most profitably employed in a course of systematic and even discursive reading. New books can be obtained from a library or borrowed from a neighboring practitioner. A journal neighborhood club can be started so as to obtain the most current literature for the least expense. There is no difficulty in getting the literature these days. The chief and almost sole difficulty is in acquiring the habit of daily extensive reading. Large articles as a rule are better than short articles for the former usually develop lines of reasoning whereas the latter throw into one's face, as it were, mere unrelated, unexplained statements.

Let a young graduate fill out his first few years—and all through life as far as he can—with a wide and rational course of reading, not only on his clinical work but on the fundamental sciences of medicine and he will be amazed at the growth of his interest in his chosen profession, the steady advance and solidity of his success and the dignity, beauty and comprehensiveness of the whole circle of the medical sciences, both theoretical and practical.

ALUMNI NOTES.

Mrs. Braley (Nee Dr. Bertha Willing), '01, is visiting friends in Chicago.

Dr. F. Barrert, '06, is at Paw Paw, Mich.

Dr. R. M. Ross, '06, will leave in a few weeks to do missionary work in China.

Dr. W. A. Walters, '06, is attending physician at the Ottawa Tent Colony for consumptives.

The secretaay of the association has placed an alumni register in the office of the college in charge of Miss Heelan. Graduates when visiting Chicago are urged to stop at the college and register.

Dr. O. E. Matter, '04, announces change of address from Freeport to Maywood, Ill.

The class of 1895 held a reunion and dinner on June 27, at the Sherman House. The members present had such a good time that they voted to form a society for other meetings. Dr. F. E. Wynekoop was elected president.

Dr. F. C. Mattison, '88, former secretary of the Alumni Association, now living in Pasadena, Cal., is visiting Chicago and is the guest of Dr. Harsba.

Dr. F. Sedlacek, '97, of Tyndall, So. Dakota, visited friends in Chicago recently on his return from the A. M. A. meeting in Boston, where he went as a state delegate.

Dr. F. C. Wheat, '01, of Marshall, Minn., visited the college recently.

Dr. C. E. Wright, '01, of Scales Mound, Ill., called at the college recently,

Dr. Kathryn Standley, '02, of Le Clede, Mo., was in Chicago for a few days.

Dr. Frank Hagans, '05, Lincoln, Ill., was married recently to Miss Maud Mangas, of the same city.

Dr. H. A. Jefferson, '05, Patch Grove, Wis., was married June 5th. to Miss Jeanette Joyce, of Appleton, Wis.

Dr. Frank Fara, '05, is located at 586 Center Ave., Chicago, and requests all '05 graduates to send him their correct address for the alumni list.

JOHN WEATHERSON, '00, Secretary.

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BATAVIA, ILL., JULY 20th, 1906.

TOOTHsome TOPICS.

Fun.

Funomina.

Funomina of baking porcelain.

We had a meeting last month with a certain Indian, Dr. John Quince, as essayist.

Of course, every one knows if we had John Quince we had a good paper, and a good fellow (I know this to be so of my own free will and accord), but he is not a good Indian for he is not dead—not yet.

The paper presented was the result of conclusions drawn from a protracted series of tabulated experiments in fusing dental porcelain.

Of course, there was funomina in it, but we did not know just how much, nor whether chemical or physical, though the Encyclopedia Brittanica, which we know by heart, says: "The making of pottery (porcelain) depends upon the *chemical change* that takes place when clay (*kaolin*) is heated by fire.

The meeting was large, the hall overcrowded. The discussants of the paper were Drs. John Nye, John Buck, John Nye, John Buck (interrupted by John Quince), John Crux, John Proth, John Buck' John Nye, John Q. closing.

A few others butted in who were not of the symbol John, but the majority did not wish to display their ignorance of chemistry, the trend of discussion being in that direction from the start.

John₁, on account of his affinity for John Q., lavished the usually deserved compliments upon the author in the usual courteous manner, plus calorified air in this case, because he, John₁ was captured by a tribe of Hoosier Indians several times and hopes to be again. He said the paper had demonstrated clearly that the fusing of porcelain was a chemical change. This was in the light of a discovery concerning the question whether the change was chemical or merely physical, though Brittanica had it all settled long ago.

John₂ said there was no question at all but what the change was physical, because it was plain to any one that chemical change could not take place except in the presence of elements subject to chemical change (note the logic). Of course, he said, if those elements were present, the change would be physio-chemical. See?

John₁ said, "Well, that's just what I said; the change is chemicophysical."

John₂ then replied, "That is not the way I understood you. Of course, in the beginning of the process we have hydrogen monoxid present, but if one is at all versed in calory he will understand that it is driven off early in the process. If not, look out for bubbles; but that don't cut any ice in this question of chemical change."

John₁: "How about calor? Don't that cut any ice? Seems to me the gentleman is getting mixed," (By the way, I will explain to the *common* fellows that calor means heat.)

John₂ replied, "I still contend that my position is right."

John₁ replied to that that John₂ did not fully understand the argument that he, John₁ made. "I simply contend that there is chemical change in fusing porcelain as well as physical."

"So do I," responded John₂. "Their is physio chemical change."

"Well, that's what I have been saying. We agree, but you don't seem to grasp the fact," answered John₁. Here Dr. Cupidicus butted in and said that he thought both discussants were mixed. He said, "I consider myself as being conversant with the subject—whatever it is—and calor," he said, "if at the proper altitude, would cause the mix (porcelain) to have a tendency to globulate. This tendency to globularity is a feature of other things than porcelain. The evidence is clear to me every day. I was once a child and they say I was then homely, though of normal proportions. (The doctor will have his little joke.) But for many years I have been a hot member of the dental profession, and have become rather rotund. I have given some thought to this chemistry—or whatever it is under discussion—and I know too, something of hydrogen monoxid on the side, and I agree with the gentleman that it will make bubbles under certain conditions. The essayist knows it, as do other Indians of his tribe, and as many of us know here in our beautiful city by the lake. This fact has been emphasized a good many times and I can not see the use of prolonging the discussion of it. The evidence of what I say is before you. It is as plain as the nose on a man's face."

Here John₃ butted in, and said he knew he was the man alluded at as having demanded evidence of assertions made at a previous meeting by John₁. Said evidence he said, had been promised but had not yet been forthcoming.

Here John₁ side-stepped by saying he had at different times consulted and advertised the essayist, John Q., in his protracted experiments, and the evidence he had to present was embodied in the paper, though under the John Hancock of John Quince. This was the tabulated evidence, but as something more convincing, he drew from his pockets, where he had them concealed, two bricks and threw them—or, rather, threw in a few remarks as he handed them to the audience. They were of porcelain, about as big as beans.

John₃ was by no means convinced and allowed that he knew a whole lot about porcelain that the other Johns did.

not know, and he didn't propose to enlighten them, either.

John₄ was modest and had to be called out. He made a few remarks pertinent to the subject and returned to his seat.

Then the other Indian from Indiantown, who followed the trail in with John Q., was called upon, and he endorsed some things that John Q. had said, but more particularly what Dr. Cupidicus had said about hydrogen monoxid. He knew more about it since he came to Chicago than before, but, personally, he said, he could put forth but a lame argument, as was indicated by the fact that he was on crutches three sizes too short for him. An Indian on crutches is one of the symptoms of civilization, though the attempt is crude on short crutches. He admitted that he was not a real "good Indian," but came near being one under the benign influence of our lake, and John₁.

Some one whose name escaped our stenographer arose at this point and expressed the thought that the audience would be more edified if the discussants confined themselves to the funomina of the paper, and not so much the lake on the side—of our city.

The president said that reference to the lake was pertinent to the subject, as it was largely hydrogen monoxid, and without which we could not work porcelain, nor build a highball.

At this a gentleman in the front row sprang to his feet and said he would like to know what all this talk about hydrogen monoxid was. "Every man in this room," he said, "knows enough about chemistry to know that the lake is not hydrogen monoxid, but H_2O , pure and simple; and they know, too, that when you heat that up high enough you drive off the H_2 and leave the O (Oh!); and if that isn't a chemical change I don't know what is. Let us have common sense!"

Another man said use C_2H_6O and avoid bubbles. I don't know about that, and the essayist didn't enlighten us.

At this point a stranger arose and said the subject had been handled like clay in potter's hands and much light had

been thrown on the difficulties of making inlays and any man who, after listening to the paper and the discussion could not go out and make inlays without difficulty had better quit the business.

As the argument had been somewhat heated and overdone, a motion to pass the subject was carried and John Quince proceeded to close the discussion; and if John₁, John₂ and John₃ had not interrupted he would have done so.

The meeting—some 300 being present—then adjourned to the College Inn, where the usual banquet provided each month by our president, was partaken, and funomina of baking was forgotten, and hydrogen monoxid —|— C_2H_6O , $2\frac{1}{2}$ per cent, and malted, was served in steins.

—*The American Dental Journal By R. B. Tuller.*

During an operation for the extraction of a tooth, Mrs. William Becker, 26 years old, of Cleveland, died March 8th, under the influence of an anesthetic. She engaged a dentist to come to her home for the operation, a physician was also engaged to attend her. Hardly had the chloroform been administered when she passed away. An autopsy was performed by Corouer Siegelstein, which revealed a diseased condition of the woman's heart.

The application by a blacksmith to Dr. Thomas Mound, president of the Vermont Dental Association, for a second-hand pair of forceps in order that he might pull teeth in his native town, Salisbury, is one of the queer outcomes of a law passed by the State legislature last fall, and over which the members of the profession in the State are in quandary. The law was framed at the suggestion of the dental society, but the solons saw fit to tack on an additional clause which allows any person to extract teeth whether they have studied dentistry or not. The feature of the law which interests the dentists is that it perfects a long cherished plan to enable Vermont to issue dental licenses that will be recognized in other States and to give similar courtesy to licenses issued in other commonwealths. Such an arrangement has already been made with the New Jersey Dental Society, and plans are under way to include other states.

SCHOOL OF PHARMACY. OF THE UNIVERSITY OF ILLINOIS.

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THE STATE ASSOCIATION MEETING,

The recent meeting of the Illinois Pharmaceutical Association which was held in Peoria, June 19th to 21st, was most successful in attendance and enjoyable in the social features. At the same time a large amount of work was accomplished especially in regard to the proposed anti-narcotic law and the suggested changes in the pharmacy law.

Among other important recommendations to the Committee on Legislation were: that the term of drug store experience required for license as registered pharmacist be extended to five years and that not to exceed two years be allowed on this time for work satisfactorily completed at a recognized school of pharmacy; that registration on "time service" be discontinued and that all candidates be required to take the same examination; that apprentices be registered upon grammar school certificates showing the completion of 8th grade work or if these are lacking that the candidates be examined in common school branches as at present.

Upon the whole, the action of the Association, representing the progressive pharmacists of the state, shows the

sincere desire of pharmacists to rid their profession of the stigma attached to it by a very few disreputables and an earnest effort to gradually elevate its educational standards until they compare more favorably with the allied professions of medicine and dentistry.

Every graduate in pharmacy residing in Illinois, every pharmacist interested in the betterment of his calling should become a member of the Illinois Pharmaceutical Association and participate in its annual sessions. In no other way can the good work be carried on so well.

ALUMNI NOTES.

C. D. Gauthier '06 and E. E. Grebel '06 registered in Wisconsin at the recent examination at Madison.

S. V. Justus '03 has engaged with Paxson & Rockafeller, Butte, Montana. Mr. Justus is the third member of the Class of '03 at Butte. The others are W. R. Montgomery and W. K. Ansorge.

Charles L. Walther '82 has disposed of his wholesale drug business at Pittsburg.

Wilbur Grimes '06 is with W. D. Duncan, Ottawa.

Ben R. Smith '90, for many years with the Searle & Hereth Co., has engaged with Frederick Stearns & Co. Ben is one of the most popular drug salesmen in the state. He will retain his old territory.

The alumni were quite well represented at the Peoria meeting of the I. Ph. A. Among others we met Fred Lueder, '81. Robt Zimmerman '84, Edwin Hall '86, Herman Fry '87, Frank Thomas '87, Albert Zimmerman '87, F. J. Hoey '89, B. Smith '90, L. P. Larsen '91, W. P. Knoche '91, G. E. Case '92, J. H. Harsch '92, F. H. S. Gazzolo '93, John Stuchlik '94, E. N. Gathercoal '95, C. E. Huddleston '98, F. H. Heidbreder '02, J. C. Wheatcroft '02, B. L. Breithaupt '04, L. L. Taylor '06, N. G. Fry '06 and F. M. Meixner '06.

In the athletic events of the "field day" at Peoria, the class of '06 carried off the honors. George Fry won the

fat men's race and Lee Taylor won the lean men's race. Can it be that the class of '06 is better with its heels than with its head? Perish the thought!

Among the class of 1906 at the U. of I. Medical College are W. T. Bowman '98, E. F. Nebeker '05 and C. R. Schaffarzick '01.

THE COLLEGE OF PHARMACY.*

Introductory remarks:

At the commencement of 1902 the pharmaceutical alumni of the University of Michigan honored me with the invitation to deliver the address at the Prescott celebration. The University of Michigan was the first of the general institutions of learning to offer a course in pharmacy, and with this course Professor Prescott had been identified since its reorganization if not since its first inception. The subject which, therefore, suggested itself, was that of "The state universities and pharmaceutical education."

Today I am no less honored by the kind invitation of your Faculty and President to deliver an address to you who are about to enter upon the duties of life and of your profession. This institution has fallen heir to the traditions of the oldest college of pharmacy established in the Mississippi Valley. It may not be inappropriate, therefore, to supplement my remarks of four years ago by directing your attention to a most important factor in the development of pharmaceutical education viz.: "The College of Pharmacy."

To the average citizen of the United States the ideas associated with the term "college" are strictly educational in character unless this word be coupled with such words as sport or yell. The average pharmacist, no doubt, is no exception to this rule. Yet we are not in a position fully to comprehend the significance of the role which the college of pharmacy has played in the development of pharmacy in this country unless we understand the broader historical meaning of this term.

In Roman law the term "collegium" signifies a number of persons associated together by the possession of common functions,—a body of colleagues. Its later meaning applied to any union of persons. In many respects, e. g. in the distinction between the responsibilities and rights of the society and those of individual members thereof, the "collegium" was what we should now call a corporation.

“Collegia” existed for the purpose of trade, like our guilds and unions, or for religious or political purposes.

In England the term college is not only applied to institutions of an educational character, but also to corporations with scientific objects and aims. Thus the Royal College of Physicians and the Royal College of Surgeons have long represented two of the branches of the medical profession in a similar manner as the Inns of Court represented the legal profession.

Closely affiliated as we are by history and tradition with England, the American apothecary at the beginning of the 19th century looked no less to France than to England for matters pharmaceutical. While it is true that the medical treatises which served the American apothecary as guides were those imported from England, if for no other reason than that of identity of language, the new chemistry was not only contemporaneous with the French revolution, but it was French in origin. In as much as many of the principle devotees to the chemistry—which had not yet developed into a separate profession although it long had been a distinct science—were apothecaries, it was but natural that the new chemistry reacted immediately upon the art of pharmacy and assisted materially in raising it out of its rule of thumb condition to the dignity of a science.

Bearing this in mind, we are no longer surprised that, at the beginning of the 19th century, the most advanced representatives of the apothecary’s art of this country should be looking to France fully as much as England—even though France, the traditional enemy of England, had not been our ally during the Revolutionary war.

One of the most interesting aspects of the history of pharmacy in France is the association of the apothecary with the guilds and corporations into which the numerous trades were united. As early as the 13th century the

* An address delivered before the graduating class of the Illinois University School of Pharmacy, Commencement April 26, 1906, by Edward Kremers.

apothecaries and spicers were united into one corporation with the "merchants en gros," i. e. with those great merchants who sent their fleets to the orient for spices and drugs. With them "they were appointed custodians of the standard weights," the "avoir des poids," and through their officers they conducted the inspection of weights of the smaller merchants of the other guilds

It was no doubt the association of the apothecaries with these wealthy merchants, fully as much as the higher educational requirements exacted of the candidates who desire to become masters and thus members of the corporation, that for several centuries at least the guild of apothecaries was so highly respected.

With the separation of the apothecaries' guild from that of the "marchands en gros," because of continued petty quarrels concerning rank and seniority, the second period of the development of French pharmacy had its beginning.

The organization of the apothecaries into guilds and their union into one corporation with the wealthy spice merchants, while it ranked them with the tradesmen, had made their calling highly respected. Their organization into a separate guild with higher educational qualifications placed somewhat above the ordinary tradesmen, but not into the rank of the learned professions.

This intermediate position was always irritating, and at times well nigh unbearable. The physician who was appointed examiner of candidates and inspector of the "apothicaireries," lorded over the apothecary. The latter in turn, being still charged with the inspection of weights and the control of the spice trade, revenged himself by lording over the spicer. This dual warfare is reported to have been made bearable only when the apothecary made a truce with the physician. His position not only became one of subserviency to that of the medical profession, but he was called upon to perform menial services for his superior. The situation in which we find the apothecary during this period has been satirized by Moliere in his "Malade Imaginaire." So distasteful had the position be-

come that toward the close of the 18th century, when improvements became possible, the French pharmacist sought to wipe out the shame by the official abolition of the word "apothicaire," and the substitution of the word "pharmacien" therefor.

This change in the official title was brought about by the edict, April, 1777, of Louis XVI, whereby the apothecary's guild was abolished and the college of pharmacy established. The college of pharmacy was not a teaching institution, but the name of a corporation of all the pharmacists of Paris and its suburbs. Only the masters of pharmacy could become members, and the edict lays down in nine articles what shall be the duties and privileges of the college and its members. Among other restrictions they were no longer permitted to conduct a general trade in spices—the privilege of the spicers—who, however, were not permitted to sell chemical medicaments. The last article of this memorable edict extends to the masters of the college the privilege, previously enjoyed by the apothecaries' guild, to foster their educational interests by offering laboratory courses and demonstrations to their apprentices.

It is of interest to note that while the college was established by royal decree and its relation to society at large and to the guild of spicers in particular regulated thereby, considerable autonomy was granted the college in the regulation of its internal affairs. Thus, while the magistrate, who acted as representative of the king at the baptismal gathering of the college, appointed temporary officers, the formulation of rules and regulations of the internal affairs of the college was left to its members.

It may further be of interest to note that, according to these rules, accepted by the edict of 1780, the aspirant to membership had to be 25 years of age. As an indication of general educational qualification, he had to demonstrate his knowledge of Latin. As a claim to special pharmaceutical training, he had to bring proof of eight years of consecutive service with the masters of pharmacy; he had to pass successfully examinations first, in the principles of the art

of pharmacy and their application to pharmaceutical operations; second in botany and on the drugs derived from the three natural kingdoms; and third, a practical examination. While not more than a month was permitted to lapse between the several tests, the third was to last three days. Not only was he to perform nine operations in this practical test, but he was expected to comment, in writing upon them.

Thus by exacting a rigid examination as well as by offering annual courses in chemistry, pharmacy, botany, and natural history, the "college de pharmacie" gave a dignified standing to a calling that had just been elevated from the position of a trade to that of a profession. As expressed by the king's representative, it was the higher educational standard necessary to the practice of the art of pharmacy that justified the king "out of love and affection for his people," to take this step.

Strange as sound the words "love and affection" out of the mouth of that monarch who a few years later became the victim of an infuriated mob, it is noteworthy that throughout the revolution, pharmaceutical organization was maintained, and that while the several political parties rent apart their country and destroyed the monuments of intellect, the pharmacists of Paris, in the youthful vigor of their new profession, met peacefully and imparted to each other their experiences.

It is true the "College de Pharmacie," though first recognised by the National Assembly, was later abolished and in its place the members united under the new name "Société libre de Pharmacie de Paris." All men, and the pharmacists were to constitute no exception, were to be free, and on the 30. Ventose of the year IV, in accordance with article 300 of the new constitution, which granted to free associations the privilege to foster education, an "Ecole gratuite de Pharmacie" was established by the before mentioned Free Society of Pharmacists of Paris. In its general character it appears to have been but a continuation of the institution previously maintained by the College

This was also the time of the foundation of the "Journal de Pharmacie," the oldest pharmaceutical journal that has been continued to our own time.

This Société libre" and "Ecole gratuite" constitute the connecting links between the "College de Pharmacie" of pre-revolution days and the "Ecole Supérieure de Pharmacie de Paris" organized the 25 Thermidor of the year XI (1803), and based on the law of the 21 Germinal of the same year, that law which constitutes the basis of French pharmaceutical legislation during the 19th century.

With the establishment of the Superior School of Pharmacy we enter upon a new era in France, viz.: that of the greater separation of educational matters pure and simple from the general professional interests of the calling.

And now it is time to return to our own shores.

When New York became an English colony (1664), English methods of administration and English customs became more and more prevalent. Concerning the practice of medicine and pharmacy it may be said that it differed from that of the mother country only in being more lax and unrestricted, and standing on a somewhat lower level, at least in the earlier times, when the two professions were usually combined in one and the same person. Whereas, on the continent of Europe, as we have seen, the profession of medicine had long been divorced from that of pharmacy by stringent laws, in England there long existed a class of persons, styled apothecaries, who were legally empowered to exercise certain medical or surgical functions, more particularly after the founding of Apothecaries' Hall. The first medical act in England, having been passed in 1811, vested the faculty of medicine in one body of men, who practiced medicine, surgery and pharmacy. The physician's assistants were styled apothecaries, and they, gradually acquiring information of drugs, began to transact business on their own account. Since we inherited our early medical institutions from England, the confusion of interests which prevailed there has, in some measure, descended to us, and the race of apothecaries, in the English sense, kept on flourishing

in this country up to within the first half of the 19th century.

The first period of crude beginnings in American pharmacy may be regarded as terminating in 1820, the date of the establishment of our national pharmacopœia. This significant event was shortly followed by the establishment of the first college of pharmacy.

Inasmuch as the organization of this corporation was provoked by an act on part of the medical department of the University of Pennsylvania, it will be necessary briefly to review the facts that led up to this important event.

The idea to establish a medical school in this country was conceived by two young Philadelphians while studying medicine in London and Edinburg, viz.: William Shippen and John Morgan. On their return to this country in 1761 and 1763 respectively, they joined the "College of Philadelphia," a medical society founded in 1749. In 1765, the school was realized, and when Benjamin Rush joined their forces a few years later, the first course of lectures on chemistry in a medical school was offered in 1769. Pharmacy, being regarded as a branch of medicine, was included in the curriculum in 1789, shortly before the consolidation of the school with the University of Pennsylvania, which occurred in 1791.

Please note at this time that the phrase "College of Medicine" is used to designate a medical society, and that many years after its organization, one of the functions of this medical society or college is to provide courses of lectures and demonstrations for the more systematic instruction of those persons who are serving a term of apprenticeship with the members of this college.

That the first medical school in this country regarded pharmacy as a necessary part of a complete medical curriculum has already been mentioned. That the University of Pennsylvania should desire to make the greatest possible use of this instruction by opening its doors to apothecaries' as well as to physicians' apprentices would seem, under the circumstances, a logical as well as a commendable action. The trustees therefore, in 1819, changed the title of the Pro-

fessor of *Materia Medica* to that of Professor of *Materia Medica* and Pharmacy, and during the winter term of 1820 and 1821 the lectures in this department appear to have been well attended by pharmaceutical students.

Apparently in order to follow up this success, the trustees early in 1821 voted to grant the degree of Master of Pharmacy in a semi-honorary way upon those who had served an apprenticeship of three years, and had passed an examination before the professors of *materia medica*, chemistry and pharmacy; also that "hereafter it shall be requisite for obtaining the degree that the candidates shall have attended at least two courses of lectures on chemistry, *materia medica* and pharmacy in the University." At the commencement, April 5, 1821, sixteen candidates received the degree.

This innovation evidently roused the keen opposition of the druggists of Philadelphia.

A few weeks after the just mentioned action on part of the trustees of the University of Pennsylvania had been taken, viz.: on Feb. 23, 1821, the druggists of Philadelphia formed a local organization, the "College of Apothecaries," one of the objects of which was to establish a school of their own, to be managed by themselves. Initial courses of lectures on chemistry and *materia medica* were delivered during the winter months of the following year, and on March 30, 1822, the institution was incorporated as the "Philadelphia College of Pharmacy."

Similar local organizations were established in a number of the larger cities, viz.:

Boston	1823	Chicago	1859
New York	1829	St. Louis	1864
Baltimore	1841	Louisville	1870 etc.
Cincinnati	1850		

While, no doubt, all of these local organizations of druggists were formed with the intent to make pharmaceutical education of apprentices one of their prime objects, in more than one instance this laudable enterprise had to be delayed for a number of years. Thus. e. g., the Massachusetts Col-

College of Pharmacy did not successfully offer more than one course of lectures on a single subject, namely that of chemistry, until 1852, nineteen years after the establishment of the college. We are informed by the historian of that institution that the "discussion of prices" was "always a fruitful subject" at the college meetings even though interest in the other branches of college activity languished.

As to what the aims and objects of the college were we are informed by a set of resolutions adopted at one of the early meetings, viz.:

"RESOLVED, That it is expedient to form an association of Apothecaries in order to regulate the education of apprentices and provide the means of their instruction; to discountenance the introduction and sale of spurious or inferior articles; to encourage the importation of articles of superior quality; to regulate the business as far as practical and consistent with our social institutions; to cherish a spirit of harmony and unanimity; and in general to advance the character and interests of the profession."

That, like its older sister, the College of Pharmacy at Philadelphia, also made a distinction between the college organization and the "school," which, as an instrument of the college, was to impart the necessary instruction to apprentices, is placed beyond doubt by an article of the early constitution which reads that "The board of trustees (i. e., of the college) shall have power to establish a school of pharmacy, to provide suitable apparatus, to procure a library, to appoint one or more instructors or lecturers, as may seem expedient, on chemistry, materia medica and pharmacy, and on such collateral branches of natural science as may be useful to an apothecary."

As late as 1829 and much later this distinction was maintained at Philadelphia, for we read in the minutes of the college published in the first volume of the "American Journal of Pharmacy" the following statement as part of a report of a committee to which was referred the question of a loan of \$1000, viz.:

"The committee, to whom was referred the subject of the propriety of purchasing additional chemical apparatus, report, that having attentively examined the subject, they are of the opinion that the interests of the college are inseparately connected with the respectability of the

school of pharmacy, and that it is to the influence which it will exert by means of this school, that the college is to look for the principal sources of its future prosperity and importance."

From this same report we also learn what the college has accomplished in the first eight years of existence, and this is possibly more important in characterizing the activities of the institution than a program of objects and aims.

"The Philadelphia College of Pharmacy has now been in existence for more than eight years; during that period it has with slender funds and through many discouraging circumstances effected more for the improvement of American pharmacy than all that has before been done or attempted in this country. It has produced union and concert, a more liberal spirit, and more elevated views among the apothecaries of Philadelphia; it has had the honor of establishing the first school of pharmacy which this country has seen; it has established the first and only journal devoted exclusively to the science and art of the profession; it has resolved a company of shopkeepers into a scientific association, the inspiring influence of which we are just beginning to feel; it has founded a valuable professional library; and, more than all, it has educated a race of young men, with more accurate science, and more extensive knowledge, than their predecessors, who are just coming upon the stage of action, and enrolling themselves as members of the institution, which they must regard as their alma mater, in whatever part of the world their future lot may be cast.

"It is from the combined influence of all these causes that your committee anticipates a more prosperous era in the history of the college, a more cordial co-operation, and more efficient and liberal support."

While emphasis is thus laid on education as the basis for raising the standard of pharmacy above that of a purely mercantile calling to that of a learned profession, in order that the designation "college" may justly apply to a corporation of apothecaries or pharmacists, we see that education was not the sole object of these organizations, but that professional matters generally and even commercial affairs often engrossed their attention, possibly to the detriment and sometimes to the exclusion even of educational matters.

With the organization of the American Pharmaceutical Association in 1854, a third period in the history of the American pharmacy was initiated by the establishment of a national organization which has ever since nurtured pharmacy in all of its branches.

The fourth period may be characterized by the enact-

ment of state laws regulating the practice of pharmacy during the last quarter of the 19th century. The enactment of these laws was invariably preceded by the establishment of state associations.

The organization of national and state associations naturally wrought profound changes in the status of pharmacy. With these associations it would seem that ample opportunity was given for a perfect organization of the American pharmacist. That, however, the local organizations called colleges should continue and even renew their activity under the stimulus of national and state associations, need not surprise us. That their purport should undergo a marked change is equally natural, but has not been generally noted.

With national, state and even county associations organized everywhere, the general professional and commercial aspects of pharmacy were more and more taken over by these associations; with the state boards of pharmacy controlling the admission to the profession, the colleges were reduced more and more to teaching institutions. The few remnants characteristic of the older college organizations are now some of the principal differences that distinguish, in large part, the old time college of pharmacy from the modern university school. Of the departments of pharmacy affiliated with medical colleges I have nothing to say at the present time.

Let us see for a moment what some of these peculiarities are:

One of the principal objects of the college was to provide opportunities for a more systematic education of the young men apprenticed to the members of the college. It must have become apparent at an early date that even a more fundamental matter was the regulation of admission to apprenticeship. This question was often discussed and recommendations were made, but apparently it was never attempted to make such recommendation a binding rule.

The "school" naturally had to take these young men as they were provided by the members of the "college" or

other apothecaries who had not joined the professional corporation. The "school" giving its courses in the evening of the winter months was indeed but a "Fortbildungsanstalt," corresponding to the evening schools nowadays provided in the larger industrial centres for the various trades.

This dependency of the "school" on the membership of the college proved a decided detriment to educational advancement for the very foundation for a proper professional training, a sound general education was too often wanting. Even after the state universities demanded a very modest entrance requirement, the largest and oldest colleges of the East demanded none. It is significant that neither of the two educational conferences organized within the 19th century have been able to bring about the necessary reform, but that it remained for the enactment into law by the state of New York of a prerequisite clause to make this important step possible. Is it not further significant that the very year in which this clause went into effect in the Empire State, also finds the oldest and largest college of that state a department of Columbia University?

The courses of lectures provided during the long winter evenings, as already indicated, were to supplement the knowledge acquired by the apprentice in the store; the scraps of information picked up here and there during a busy routine were to be systematized. The obvious result was the emphasis laid on didactic lectures and practically the absence of laboratory instruction even after other educational institutions demanded that a liberal portion of the student's time be devoted to laboratory practice. With the gradual deterioration of the apprenticeship the importance of laboratory instruction manifested itself more and more, and in many instances was provided for as rapidly as limited funds permitted, but even today the American Conference of Pharmaceutical Faculties, which is supposed to represent the best institutions in this country, does not dare to demand more than 600 hours of laboratory instruction as compared with 500 hours of lectures and recitations.

At a time, when we had no state boards, the diploma of

a college was a—by no means the only—certificate of mastership which admitted to membership in the college, i. e., was regarded as a qualification for independent practice of the profession. It was no more than right as well as expedient that under such circumstances an age limit of twenty-one should be demanded as a requisite to graduation. As soon, however, as the state boards replaced the self-constituted colleges as the authorities appointed by the state to regulate the practice of pharmacy, the age requisite of twenty-one years for a diploma became obsolete. Again, it is significant that most colleges clung to traditions, no longer justified by new conditions, rather than to adopt standards generally in vogue in educational institutions throughout the country. It was only at a recent meeting that the Ad Interim Committee of the Educational Department of the State of New York, recognizing the incongruity, secured the abolition of this requirement for the diplomas of the four colleges of pharmacy of that state.

But enough of these traditional peculiarities. Suffice it to emphasize that our colleges are ridding themselves of these as rapidly as their membership is being educated to a broader conception of educational matters and to a proper comprehension of the changed functions of their institution with reference to the public at large.

With the establishment and growth of our state universities, education was placed on a different plane. Our classical colleges and universities are no longer merely places for the evolution of gentlemen, or for the training of young men for the ministry, for the bar, or for medicine, but their broader function is one of education of young men and women for good citizenship, for the state, whatever their calling may chance to be.

The welfare of our citizens demands that the pharmacist be an educated person and it is for this reason, not for the exaltation of our profession, that a state expends no inconsiderable sum of money for the education of the future servants of the public. The recognition on the part of the state, that the welfare of its citizens demands an educated

pharmacist, places upon it the obligation to relieve the calling as such of the necessity of educating its professional offspring, and to make liberal provision for such education unless the volunteer philanthropy of its individual citizens has relieved the state in part, and of necessity in part only, of such obligation.

In many, if not most states of our Union, this obligation is now being recognized, and in not a few instances is being appropriately met. The trend of the times is such that even Harvard, Yale and Princeton no longer regard themselves as private corporations, but as public institutions. The older and larger colleges of pharmacy also have long outgrown their character as local institutions; it only remains for some of them to become still more public in character than they already are.

Take, e. g., your own state. The University of Illinois, finding a well established college of pharmacy in its metropolis, was the last of the states cut out of this old Northwest Territory to offer instruction in pharmacy. Fortunately for the state and for pharmaceutical education, the State University and the Chicago College of Pharmacy joined hands and in place of two rival institutions, we have one backed by the druggists of Illinois and soon to receive—let us hope—the liberal financial support of the entire state. The result is an institution, which, while the bearer of the traditions of the past, may have the courage to look full of hope into the future.

And now a word in closing respecting the fifth and last period in the history of American pharmacy upon which we have just entered. With the enforcement of the prerequisite clause in the state of New York, which will go into full effort when the colleges of the Empire State open their doors to new matriculants next fall; with the adoption of similar resolutions by several state boards of pharmacy, we are entering upon what may be designated the era of universal pharmaceutical education. Not only will a college course of two years be demanded, but the candidate for admission to college must bring proof of at least an elementary gener-

al education so essential to an all-around professional development.

What will be the position of this great state in this new movement, what will be your attitude toward this demand for a higher educational status of your profession?

Whatever the outcome of this movement may be, do not think of it as the highest goal to be attained, for, if successful, it must be but the stepping-stone to further advancement. Pharmacy will never be regarded as a learned profession unless a large number of its members are educated in something more than the technique of the operations which they are called upon to perform.

And right here I rejoice in the opportunity to repeat the words of your own President—words which, when first uttered, cheered my heart, words which I have quoted before, and which I cannot refrain from quoting on this occasion.

“Young men who are looking forward to a life of activity, of influence and of enjoyment cannot afford to neglect the opportunities which the community now provides so liberally for higher education. No young man should take up the study of pharmacy, who has not completed, at least, the first two years of a liberal course in college.

“In other words, the student should aim to obtain not merely the title of Pharmaceutical Chemist or Graduate in Pharmacy, but the title of Bachelor of Science in Pharmacy, a title which at the better universities indicates today that the man has not only a technical training in pharmacy, but has the foundation of the liberal education of a gentleman—such an education as every American citizen who aspires to leadership ought to have, such an education as is open today on easy terms to every boy in the community. I look forward confidently to the time when no university will give any other degree than that of Bachelor of Science in Pharmacy and will insist that the holder of this degree shall be, as the degree indicates, an educated gentleman as well as a trained pharmacist.”

How many of you, young women and young men, have received sufficient inspiration during the past two years to heed these prophetic words of your president? How many of you, fellow pharmacists of the State of Illinois, are going to insist that it is the duty of the state to help those who are eager for such an education, by making this school of pharmacy the peer of any department of your highest institutions of learning?

The University of Illinois

...SCHOOL OF PHARMACY...

❧ ❧ **Chicago College of Pharmacy** ❧ ❧

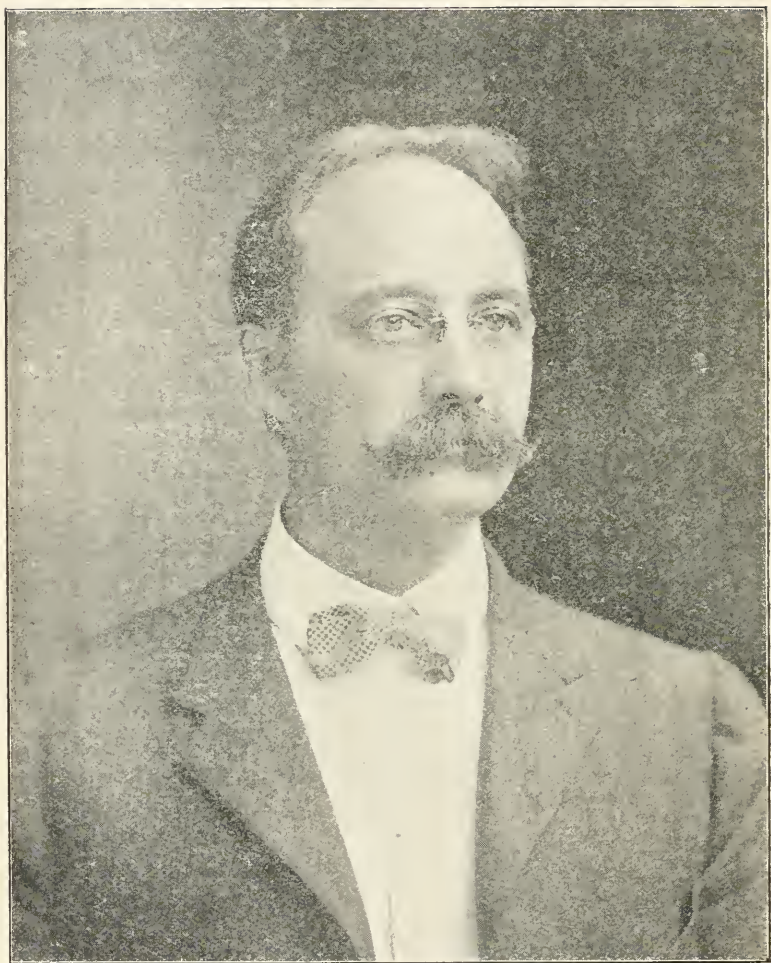


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SUBMUCOUS RESECTION OF NASAL SEPTUM,

By DR. RICHARD H. BROWN.

Associate Professor of Clinical Laryngology, Rhinology and Otology.

The importance of septal deformities is today appreciated by nearly all rhinologists, and every year an increasing amount of attention is given to the septum in the treatment of chronic nasal catarrh, even where obstruction may not be the central feature. By the vast majority of the general practitioners, however, it must be admitted that very little significance has been attributed to those extremely common irregularities of the septum. This is true largely because these spurs, ridges and deflections are not easily seen by one unused to the head mirror, and he easily attributes to general disease what may frequently be caused by mechanical irritation or obstruction. It is a very easy matter to see the exquisite irritation caused by the growth of a toenail into the tender flesh, and the mechanical treatment is at once suggested. But, without careful examination, one does not see that the sharp edge of a septal ridge is pressed deeply into the turbinate every time there is the normal turgescence of this organ, and perhaps he makes light of the suggestion of surgical relief.

In general it may be said that, in a perfect nose, the membranes of turbinate and septum should not touch, and that when they not only do touch, but are firmly pressed together during a great part of the time, there

Read at meeting of 2d District Medical Society of Wisconsin, Aug. 9, 1906.

must be a very decided irritation of the parts, with consequent catarrhal discharge, more or less marked obstruction and, perhaps, asthmatic or other nervous symptoms.

One who has experienced the irritation from some foreign body in the nose has had an object lesson, somewhat magnified probably by septic invasion, of what is actually going on, all unsuspected, from the presence of some abnormality of septum or turbinate.

While overgrowths of the turbinate tissue very commonly lead to the milder forms of catarrh, it has been the experience of the writer that the overwhelming majority of the more stubborn cases of chronic nasal or post nasal catarrh have been complicated at least by some septal deformity, and have yielded only after its removal. There is a fascinating subject of investigation along this line, but a further study of it must be left to a subsequent paper. The object of this article is to call attention to the best treatment of these irregularities.

Septal deformities may be roughly divided into two classes; first, deviations, which may be either the smooth bendings of the septum to one side or another, the familiar deflections, or irregular angular deformities. Second, thickenings, under which head we should place the uncommon neoplasms.

There has been much discussion as to the cause of the deviations of the septum. They have been attributed principally to accident or to various developmental irregularities. The writer is inclined to consider them due to traumatism which may have been received at any time from the passage of the parturient canal to the latest football accident or political discussion. To prove or disprove this theory would require an enormous amount of research regarding the shape of the septum in the unborn child. The thickenings are due, for the most part, to constant irritation from the current of the inspired air with its dust and bacteria. They form most commonly where this current strikes most powerfully below and anterior to end of the middle turbinated bone, or on convexities of bends or angular

deformities. This last is the great cause of the common spurs. Such a thing as a sharp shelf of bone growing out from a perfectly straight septum, formerly considered common, is, in my opinion, one of the very rarest of nasal abnormalities.

The deflections of the septum may be either simple-bent only to one side, or compound-bent to one side at one place and to the other at another. The commonest seems to be a pronounced bend to one side in front and below, with a less pronounced bend further back and higher. The angular deformities, also usually run from below upward and backward along the line of the junction of the vomer with the quadrangular cartilage, and the perpendicular plate of the ethmoid, but there may be any variety until the septum resembles a miniature range of mountains.

The almost universally employed treatment of these deformities a few years ago—and one still commonly used—consisted in cutting the septum through in various directions according to the shape of the bend and then fracturing the bone or cartilage to destroy its resiliency, holding it in its new place for a few weeks with splints or tubes until it grew into its proper position. The “Asch operation” or simple extensive fracturing without preliminary incisions and with subsequent retention as in the “Roe operation.” The spurs were sawed off, membrane and all, and then allowed to heal over in a few weeks (or months.)

These operations were exceedingly disappointing. In the first place, even after the most careful fracturing, the septum very often slowly regained its old position. The overlapping parts of the “Asch” or the crushed fragments from the “Roe” operation led to thickenings which often caused as much obstruction as the first deformity. Occasionally, also, the fracture extended up to and involved the cribriform plate, bringing on more or less severe meningitis or at least interference with the sense of smell. But worse of all, from the patients standpoint, was the pain and discomfort of wearing tubes or

splints for four to five weeks. As regards the spurs, if an operator sawed close enough to get complete relief from the obstruction, he ran great chances of making a perforation. If he avoided that, the bend still remained and the new membrane growing in from all sides piled up higher in a wave of encircling granulations until there was left a mound of new tissue nearly or quite as prominent as the mass removed. This took months to flatten down. In general, the lot of the patient with septal deformity was not a happy one.

The submucous operation has now come to remedy these defects, and to nearly take the place of the older treatments. For years many of our best rhinologists have practiced dissecting up flaps of membrane before removing a spur, and some very creditable work has been done even with crude instruments. Kreig of Stuttgart as early as 1887 was bold enough to resect parts of the framework of the septum under the membrane, and gave to this operation the name, now so familiar, of the "window resection." This procedure, for years nearly forgotten, has lately become more and more common with varying technique in the hands of different operators until it now bids fair to entirely take the place of the older operations. The nearly bloodless field afforded by the suprarenal preparations of the last three or four years has been a wonderful help in allowing the surgeon to reach the more remote parts of the septum and various instruments have been devised exquisitely adapted to this delicate piece of surgery. Of the instruments designed for this work, the writer unhesitatingly gives first place to those of Otto Freer. They leave little to be desired. The heavier elevators as used extensively in Europe and by many in this country, have not tended to preserve the membrane, but have had the opposite effect. Along the ridge of a deflection nothing he has yet tried can take the place of careful dissection with delicate instruments. The swivel knife of Ballenger and the V-shaped chisel have been important helps.

The technique of the operation as done by the author is

as follows: The nasal fossæ are first carefully sprayed with a bland alkaline wash. Then after a preliminary spray of 2 per cent. cocaine solution, thin layers of cotton saturated with equal parts of 1-1000 adrenalin solution and 10 per cent. cocaine are carefully packed against the entire operative field on both sides. It requires from 15 minutes to an hour to get the septum thoroughly anesthetized, and rubbing the



Fig. I.

Showing large bony deflection and thickening of left septum with primary cut through membrane in front. Vertical longitudinal section to the left of septum.



Fig. II.

Showing membrane largely dissected up from convexity.

parts with a wet pledget dipped in crystals of cocaine muriate may be required—this always after blanching the membrane with adrenalin or other suprarenal preparation. After the parts are thoroughly anesthetized and as nearly bloodless as can be, self-retaining speculæ are inserted on both sides and a little water or perhaps 1 per cent. cocaine

solution is injected by a hypodermic needle to assist in loosening the mucoperichondrium from the underlying cartilage. A vertical or slanting incision is then made down to the cartilage or bone on the side of the convexity and about one quarter of an inch in front of the tissue that is to be removed, Fig. I. This incision should be made extensive enough to allow free view of the parts to be operated upon and can be extended into a horizontal L-shape if required. Its position depends upon the part to be removed. Usually it is just at the back part of the vestibule, but it may be well in front of that or quite far back in the nose.

With a small sharp elevator the mucous membrane with its closely attached perichondrium or periosteum is carefully desected away from the framework of the septum. Great care is required here. The success or failure of the operation depends largely upon this first dissection. This part of the work requires extreme caution, as the perichondrium is extremely adherent to the cartilage in the vestibule, and is quite easily lacerated. After the membranes are well started from the cartilage or bone in front, a dull elevator of the same pattern is substituted, and the membrane raised thoroughly from the septum over and beyond the entire area to be removed, Fig. II. This is easy over the smooth part of the bone, but over the ridge of the angle and along the junction of the vomer with the quadrangular cartilage or plate of the ethmoid we may again meet difficulty and have to resort to very careful dissection, often with the sharp elevator. When possible to get at the lower part of a spur from in front it is best to work up to the ridge from both directions. Where this is not possible, as frequently happens, it is best to wait until the upper part of the septum has been removed so as to allow more room.

When the membranes are well freed from the entire convexity of the septum a sharp moderately curved knife is used to cut through the thickness of the cartilage in front. This must be carefully done so as to cut down to the membranes of the other side, but not through them, Fig. III. This is an extremely delicate part of the work and only

experience will prevent the operator occasionally cutting through the membranes of the concavity. Through this hole in the cartilage, the blunt elevator is used to raise the membrane precisely as on the opposite side. The instruments can be guided by sight as it moves under the membrane of the concave side, Fig. IV. The sharp elevator will occasionally have to be used here also, and the membrane must be raised



Fig. III.

Buttonholing the cartilage. In order to show the technique, the whole membrane has been folded back.



Fig. IV.

Taken from another specimen showing instrument inserted through opposite side, dissecting up membrane on concave side of septum.

as widely on the other side. We have now the frame work of the septum stripped of its mucoperiosteum on both sides and cut through only a short distance back of the original incision on the convex side. Through this cut, if well forward, the swivel knife can be placed astride of the quadrangular cartilage, and with a steady pressure up, back, down

and forward, the entire cartilage necessary to remove can be cut away with one sweep and drawn out by forceps. The instrument must be held under perfect control as a sudden quick lunge may tear away membrane and seriously mar the success of the operation.

After the removal of the cartilage in this manner and frequently when the swivel knife is not used at all, the



Fig. V.

Membrane folded back to show chiseling away of bone with V shaped chisel.

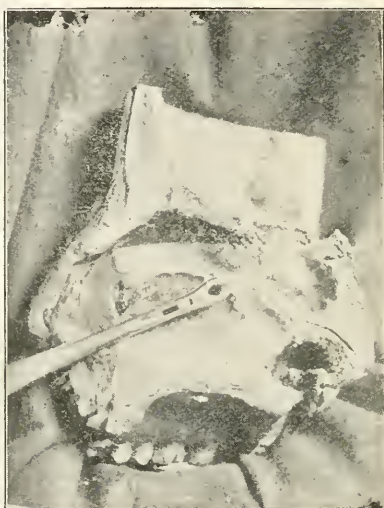


Fig. VI.

Cutting away bone at back with Freer's forceps. Membrane removed to show technique.

V shaped chisel is placed astride the cut edge of the septum and the entire deflected part chiseled away piecemeal, Fig. V, and removed by forceps. In front this is comparatively easy. Further back it is difficult to separate the pieces of bone from their posterior attachment. Bone cutting forceps are here the natural instrument, but the perfect bone cutting forceps for the septal work has yet to be made. The Freer forceps works well in larger noses and when a large flap has been raised, Fig. VI, but in many cases it is necessary to

cautiously twist away the partially severed pieces of bone with a heavy forceps or saw them with a right angled saw of the Kyle pattern. During the chiseling away of the septum the membranes on both sides can be held away by various forms of slender retractors, which will greatly facilitate the work.



Fig. VII.

Complete operation showing membranous septum, somewhat depressed, in place of former deflection.



Fig. VIII.

Completed operation but with membrane removed to show whole extent of resection.

After all the offending parts of the septum have been resected, the membrane on the convex side should be smoothed down into position where it should hang vertically leaving a membranous septum in place of the former deflection, Fig. VII. The author then inserts a thin splint of dental gutta percha on the side from which he operates and packs it down gently upon the membrane with a strip of sterile gauze so as to hold the flap or pocket in perfect

place. The gauze strip is removed on the second day. The nose is cleaned and the gutta percha splint allowed to stay for two days more at which time the flap has usually healed down perfectly and the only after treatment required is cleaning with alkaline washes until no crusting of mucus takes place. This is usually accomplished in from two to five weeks. The patient has good breathing room from the time the splint is removed.

The danger of the operation is principally the possible formation of a perforation. If, by any slip during the work the membrane is torn on both sides so that the tears come together, a permanent perforation will almost surely result. A cut only in the one membrane, if covered by sound membrane on the other side, will practically always heal over easily and quickly. Even where quite a piece of membrane has been lost from one side, it ultimately heals, provided always that there is not a loss directly opposite. With experience, laceration of the membranes can nearly always be avoided and perforation is more rare than under the older operations. The author has notes of fifty-six resections of the septum in his practice and has had only two small perforations, and these occurred in his first six cases. The after results of this operation are very gratifying. The septum stays in its natural vertical position without thickening and with entire relief from nasal obstruction. Under the customary treatment, the irritated nasal mucosa comes back to normal condition, and cases that have resisted treatment for years often yield in a few weeks. With care to leave about one half inch of the quadrangular cartilage as a support, there need never be any falling in of the tip of the nose. A new framework soon forms if the periosteum and perichondrium are preserved and the septum presents, even under rigid examination, a perfectly normal condition.

The reparative powers of the nasal mucous membrane are well known, but it has often been a cause of wonder to see how perfectly a septum would heal after perhaps half of its framework had been cut away.

After removal of spurs by this method, the healing, in

comparison with the older plan, is comparable to the difference that exists in the healing of the properly made stump after amputation of a finger and that where the cut end would be allowed to scar over by granulation.

In a number of the illustrations the author has folded up the membrane to show more clearly the technique, but in practice this is not required. The membrane is held away from both sides of the septum by slender retractors passed through the primary incision and the button hole of the cartilage shown in Fig. VIII.

For the preparation of the photographs illustrating this article the author is indebted to Dr. Clark W. Hawley, of Chicago.

SUBPARIETAL INJURIES OF THE KIDNEYS WITH EXHIBITION OF A CASE.

BY WILLIAM FULLER, M. D.

Adjunct Professor of Operative Surgery College of Physicians and Surgeons, Chicago.

Under the title, "Subparietal Injuries of the Kidneys," much has been written. The subject is a very old one. It was discussed by Celsus, who was the first to recognize the symptoms by which this condition is characterized today. It has furnished the surgeon with many complex problems, and some of them are not well understood even now.

The title as stated gives no idea as to what may be expected in the perusal of many papers published under this heading; indeed, in reviewing some of them we are often disappointed because they describe principally injuries occurring in connection with kidney injuries, the latter frequently receiving but scant mention. Moreover, these articles deal alike with cases with and without complications; no distinction whatever with reference to the kinds of violence being attempted. It should be borne in mind at the outset that these complications, especially in indirect violence, are numerous, and often so great in extent and grave in character that the actual renal traumatism is of comparatively little importance.

Renal wounds, sustained in almost any manner, may amount to nothing more than the merest contusion of the smallest portion of the kidney, but slightly, if at all, disturbing its function; or the organ may be so seriously damaged that its function is immediately and permanently suspended. It is also a fact that a constant and definite ratio will not always be found between a renal injury and its clinical manifestations.

The case presently to be reported shows, as do others found in the literature, that the most extensive renal trauma may be unattended by severe symptoms or by any symptoms at all, while a slight injury may be followed by very pronounced symptoms.

Of all injuries to the kidney, Keen, as well as other surgeons, states that the subcutaneous variety is the most frequent. The statistics of Elder, as well as those of Herzog, are in accord with Keen's opinion on this point. The latter writer has reported 17 cases of this kind, and 16 of them were subcutaneous.

According to Morris (*Surgical Diseases of the Kidney*) the damage suffered by the kidney is more often serious than otherwise. In 31 cases reported by him, including all kinds of injuries, 26 were ruptures.

It is the opinion of all writers that the accident occurs more frequently on the right side than the left, and is found in the male much oftener than the female. Küster collected 272 cases and found 142 on the right side, 118 on the left, while 12 were bilateral. The relative frequency of kidney injury in the two sexes is explained in various ways by different writers; but the explanation advanced by Küster seems the most reasonable and is doubtless correct. This observer does not believe that the greater frequency of this accident in the male subject is a question of occupation, but that the shape of the female body, with its broader iliac crest, as well as the peculiarity in female attire, affords greater protection to the kidney in women.

The subject of kidney surgery, in many of its phases, has been well worked out, but on part of the question under

discussion there seems to be a lack of unanimity of views on the part of many surgeons. This particular feature of the subject has been carefully reviewed, and it is difficult to agree with all that has been written upon it. As my experience is small as compared to some, I realize the possibility of error into which I may have been led in the conclusions reached, owing to the fact, also, that they are somewhat at variance with the generally accepted opinions in reference to these points.

The purpose of this paper, therefore, is to present for your consideration a few items in connection with kidney injuries, our knowledge concerning which has hitherto failed to keep pace with that of the remainder of the subject.

The first, and probably the most essential one, is the nature of the kidney lesion itself, and more particularly the degree and kind of violence necessary to produce such a trauma. The second is the manner in which selections of cases have previously been made. This point has special value, if we would establish a mortality rate upon which reliance is to be placed. Many papers, and excellent ones too, are to be found in the literature on subparietal kidney injuries, but they contain such striking discrepancies in regard to this point, that an accurate death rate is far from being established. The third and last point is to draw attention to a brief review of the symptoms, which under ordinary circumstances are found in this accident.

G. Schmidt (*Deutsche Militäerärztliche Zeitung*, 1902, No. 12) collected 360 cases of subcutaneous kidney injuries from the entire literature, with a mortality of 9.1 per cent; while Küster found in 306 cases a mortality of 47 per cent. Some writers have shown a death rate even higher than this; and this fact alone seems justification for studying the subject with the hope that it will not be in vain.

In the judgment of the writer the extremes representing the mortality in kidney injuries are the result of the manner in which the selection of cases has been made. Cases have been reported without due account of the wound of the

kidney, and without reference to the manner in which violence or force was applied. In other words, in analyzing these cases, special stress has not been laid upon the distinction in the various types of violence instrumental in causing wounds of the kidney. Direct and indirect force have figured about equally with many writers in summarizing the evidence for the purpose of determining a death rate. Distinction has not been made between force which is concentrated and confined to an area corresponding in size to and over that of the kidney, and force which is greatly diffused and involving a much greater area. In this latter class of cases, as well as many of those produced by some form of indirect injury, as when the body is squeezed between two moving objects or thrown with great violence to the ground, an isolated renal injury will more often be the exception than the rule. Indirect violence when applied to the body will, when rupturing the kidney, likewise injure the liver or spleen, or both. Just why such cases have been classed with those of kidney injuries is not quite clear. They have not only been classed as such, but have been utilized in determining a mortality rate of this accident. Not only will cases thus included mislead one in searching for figures which are intended to show the true mortality, but nothing reliable in the way of a symptomatology can ever be expected.

If we would establish a mortality rate in thigh amputations, in operations for hernia, or if we would define the symptoms characteristic of these conditions, cases presenting complications would certainly be excluded. So it should be with renal injuries; if such a lesion has a symptomatology nothing would confuse and obscure it more decidedly than cases with accessory injuries. Symptoms occurring in cases of the latter kind are not manifestations of kidney lesions at all, and should never be so regarded. In fact, many renal injuries have shown such extensive and serious concomitant traumatisms that the former play a minor role in the condition found. It therefore appears needless to add that a great reduction in the mortality of kidney inju-

ries can not be hoped for, or that useful clinical data be obtained, until a better classification of the cases is made.

It follows, therefore, that in order to obtain a better understanding of the points touched upon, uncomplicated cases of renal trauma only should be selected—cases produced, as a rule, by direct violence, or other type of injury if complications are absent. It seems quite needless to add that the clinical findings in such a series of cases as this will typify kidney injury, and exceptionally any condition other than this. Information obtained in this manner would be quite constant, reliable and trustworthy. It should not be forgotten that in a small per cent of cases evidence thus gained would not always harmonize with facts, but this can be said of any condition, and is due to individual peculiarities and extreme variations in the degrees of injury.

Some kind of kidney injury can be suspected when an individual gives a history of having received a violent blow over the renal region, especially if this be followed by the passage of bloody urine, and pain and tenderness over the kidney area. There may be shock, complete or partial, coming on at once, accompanied by nausea and vomiting, a quickening of the pulse, and often a subnormal temperature. These symptoms may be mild or severe, and will depend on the circumstances alluded to above. It is fair to assume however, that in the average run of cases these clinical features will be approximately exhibited.

It requires, under all circumstances, discriminating judgment, because the exact manner in which the accident takes place is not always easy to ascertain.

Hematuria would suggest itself as being the most constant and noteworthy symptom of renal injury. In 75 cases collected by Maas it occurred in 86 per cent. But as shown by Morris, Keen and others, it is not necessarily an indication of a lacerated or contused kidney. Hematuria may result from a lesion situated anywhere between the meatus urinarius and the renal pelvis. It is easy to understand how the presense of a lesion which previous to an injury

had never given trouble might become the source of considerable and persistent hemorrhage.

Morris (*Surgical Diseases of the Kidney*) reports the case of a boy, who by merely striking his side could produce a hematuria which would last for days; this was due to a villous growth in the bladder. Toxic hematuria and bleeding excited by irritants, as emphasized by Morris, should be remembered. Again, it should not be overlooked that hemorrhage from a lacerated kidney may be very slight or absent altogether.

Erichson (*Science and Art of Surgery*) gives a description of two cases which came under his observation, and blood in the urine occurred in neither of them.

C. A. Powers (*Trans. New York Acad. of Med.*, 1887) also describes the case of a woman 53 years of age who received an injury which lacerated her kidney, and from which she died on the third day; no blood was passed in the urine.

Probably the most interesting case of this kind is one reported by Charteris (*Lancet*, 1880, Vol. 1, p. 90). The accident occurred to a man 45 years old, who fell striking his side against the corner of the table; the patient passed no blood in his urine, and had neither pain nor tenderness in his side or elsewhere about his body. There was no acceleration of the pulse nor elevation of the temperature. Vomiting, however, was a symptom which supervened at once and persisted till his death, which occurred on the thirteenth day after the accident. The autopsy revealed a perinephric abscess containing 26 ounces of pus. There was a transverse rupture of the kidney, dividing the organ in two equal parts; the upper one having attached the renal vessels and ureter, and the lower segment entirely stripped of its capsule.

Cases of this kind are rare, but should be remembered, as they serve a good purpose in summing up the evidence in many renal injuries.

The apparently trivial injury which at times may separate the kidney from its vessels and ureter, and the proneness of the former to become thrombosed under such inter-

ference with the circulation, would lead us at first to believe, if Morris' theory regarding the greater frequency of severe injuries of the kidney is true, that hematuria is a symptom which would be more often absent than present.

Dr. T. A. Davis (*Ann. of Surg.*, 1902, Vol. XXXVI, p. 346) has tersely expressed the facts relative to the diagnosis of kidney injury. He says: "That a knowledge of the degree, direction and point of application of the force and the nature of the vulnerating body in direct violence throws as much light on these cases as it does in the study of fractures." The proof of this is afforded by reviewing a collection of reported cases from most any writer. For instance, the nine cases reported by Dodge (*Ann. of Surg.*, Dec., 1902) serve as a good example. Three of these are reported as "Simple Ruptures" and as having been produced by indirect injury; two of the three patients were run over and dragged several feet. The three cases presented the usual symptoms of renal injury, were treated conservatively and all recovered. Six of the cases were subjected to operations and it is interesting to note that four of these were indirect injuries and did not recover. Two cases were produced by direct violence, and there were no complications, both recovering.

Considering the great number of conditions which give rise to signs and symptoms almost identical with those found in kidney injury, the utter worthlessness of reporting cases thus symptomatized as renal traumatism is very evident. It follows, therefore, that some doubt should be entertained regarding reports of such cases, especially when they lack confirmation by exploratory operation or autopsy.

Given then a case with kidney injury in an individual previously well, what is the most rational plan of treatment?

Operations on the kidney are always undertaken with greater assurance and confidence when the uninjured organ is known to be in a normal condition anatomically and functionally. This evidence is obtainable under nearly all circumstances other than injury, without much difficulty.

While the information is no less valuable, perhaps, in traumatic cases, to secure it is not always an easy matter, for reasons which are obvious, the patient's condition very frequently calling for immediate interference, and bloody urine rendering it impossible to make a diagnosis by bladder instrumentation.

If it be remembered that the utmost conservatism should be exercised on all occasions when dealing directly with an exposed and injured kidney, after all, a knowledge of the state of the uninjured organ would not be of great importance. Nature, aided by the wisdom of a careful and competent surgeon, may frequently enable a badly crippled kidney to resume its function; and this applies not only to the kidney as a whole, but to a minor portion as well. According to the animal experiments conducted by Dolyoff, to which we may add the clinical reports of Keen, partial nephrectomy is without doubt the operation of choice, and should be done in all cases when feasible. Collins (*Lancet*, Jan. 25, 1902) reports a case of ruptured kidney consecutive to a run-over. He performed a nephrectomy, and had a good result.

It is far better to do a secondary operation and perform a total nephrectomy, than to do such an operation primarily on an organ, even a part of which might have otherwise been restored to usefulness. In this connection, however, I deem it wise to take into consideration the advice of Keen on this point, who says that secondary nephrectomy is four times as fatal as primary. With reference to this I am without an opinion, but it does seem that if the surgical indications could be correctly interpreted and properly and judiciously met in primary operations, the necessity of secondary nephrectomy would become a great rarity.

The retroperitoneal location of the kidney and its easy accessibility place the surgical attack of this organ with reference to danger in the category of minor operations, which should have in competent hands no mortality. It would appear, after carefully weighing all evidence obtainable, that for cases properly belonging here there is but one indication, and that is immediate operation.

The incision which is necessary to expose the kidney to view is the work of but two or three minutes and is perfectly free from risk, detracting in no way from the patient's chances of recovery. A kidney which is unexposed and is the seat of injury is a menace to life, and hourly lessens the patient's chances of living.

In confirmation of this point we can not do better than heed the advice of Dr. Bevan (*Chicago Med. Rec.*, 1904, p. 199) who has had an extensive experience in kidney surgery. This surgeon says after analyzing the late methods of diagnostic value, that "Exploratory operations must be in spite of our newer and more accurate means of diagnosis occasionally resorted to. I have no hesitation in saying that I still consider at least 10 per cent. and possibly considerably more of my kidney operations as exploratory, and am not surprised to find hypernephroma where I regarded tuberculosis of the most probable cause, and vice versa." He further adds, that "Exploratory operations will always retain a place as a means of diagnosis in kidney surgery." If Dr. Bevan is right in his "10 per cent. or considerably more" with reference to the cases described by him, does it seem irrational to increase his per cent. even to 100, if by so doing it will reduce the mortality in a class of cases infinitely more urgently in demand of prompt surgical treatment? The atypical cases, or those with few or mild symptoms, are the ones to be feared and can be properly managed by bearing in mind their occasional occurrence. A case in point is that of Mynter (*Ann. of Surg.*, 1891, No. 14), in which a brakeman proceeded with his work for some time after receiving an injury which completely pulpified one-half of the kidney. Of this class my own case furnishes a good example.

The patient was a boy, nine years of age, perfectly well previous to his accident, which happened October 8, 1904. While alighting from a street car he fell or was thrown against another car; the blow he received was directly over the left side corresponding to the kidney area. The force did not appear to be severe, as stated by those who wit-

nessed the accident; it knocked him over, however, but he regained his feet at once and ran away. He soon felt faint and vomited. On reaching his home shortly after the accident, he was seen by a physician who made a thorough examination and found the following condition: The boy showed a pallor, had a pulse of 100 and a subnormal temperature. He complained of pain over the left side confined exactly to the kidney area, and was positive that this was where the car struck him. A careful examination of this portion of the body surface revealed nothing in the way of trauma. Palpation of this area, however, elicited pain and tenderness over the point above mentioned. No swelling or undue prominence in this locality was noticed. Previous to the doctor's visit the boy passed urine, which the mother said contained blood. The patient was put to bed, and the side strapped with adhesive plaster and ice-bags applied.

I saw the patient 24 hours later and his condition had not materially changed, nor did it seem at all serious. The pulse was 80 and the temperature 100. The respirations were about 40, and inclined to be short and jerky. He did not look exactly pale, but showed a jaundiced condition of the skin; he had vomited several times during the night previous, and had, as the mother said, "talked out of his head." The bowels had not moved, and the urine which had been voided frequently did not appear to the naked eye to contain blood. An examination of the abdomen and loin showed the former to be distended everywhere, but tender to touch only in the left upper portion; the loin was also tender, but did not give evidence by either palpation or percussion that serious damage existed. During my visit the patient urinated, but microscopically the urine did not contain blood. The nausea and vomiting had ceased and the actual damage impressed me as slight.

A favorable prognosis was given and continuation of the former physician's treatment advised. There was no change in his condition till late the next night, when I saw him for the second time. His pulse was 110, the temperature 101 and the respiration 50; the bowels had moved by

enema, and the delirium was about the same. He was removed some distance to a hospital, and it being late at night, was made ready for an operation early the next morning. At my visit, which was very early, he appeared better; the temperature was 100.6, pulse 100, and respiration again 40; the bowels had moved well, and 10 ounces of urine had been passed, microscopically free from blood. Although his symptoms seemed to indicate improvement, the icterus in the skin had not lessened. Another thorough examination of the kidney area afforded no additional information. In view of the apparent improvement it was deemed advisable to postpone the operation. During the next 24 hours the bowels moved, and the urine showed no blood; but the jaundiced condition became more intense and the delirium more noticeable. All other symptoms were about the same, but the general appearance of the boy was not good. He was taken at once to the operating room and the operation performed.

A vertical incision to the outer side of the erector spinæ muscle exposed the perirenal space, showing the tissues markedly changed in appearance. When the circumrenal structures were divided there was a gush of perhaps more than a pint of fluid, which was evidently a mixture of blood and urine. Deeper within the kidney space several blood clots were found and removed, which gave, when the margins of the wound were forcibly retracted, a good view of the injury done.

In the depth of the wound lay the kidney, showing first a transverse rupture which had divided the organ in two equal parts. The capsule was stripped from both halves the kidney, and the upper half was lying about at a right angle to the long axis of the organ, and through it a second rupture was seen, which had separated it in halves. The injury had not only thus damaged the kidney, but had also separated the organ from the renal vessels and ureter. The operation was completed by merely lifting the fragments of the kidney from the wound; not a single ligature was used, as no bleeding vessels were seen. The cavity was well

sponged out, gauze drainage introduced, the wound sutured moderately close around it, and the patient put to bed.

Shortly after the operation the temperature rose to 101, and the pulse to 120. This was of short duration, as the following morning found him with all the symptoms normal and they so remained till his discharge from the hospital, which was at the end of about 20 days.

His convalescence was so ideal and uninterrupted that nothing of interest can be said of his after-history, except possibly the daily increase of urine excreted, which showed compensatory and very satisfactory function of the remaining kidney.

Of more than passing interest are two points with reference to kidney lesions as yet unmentioned. These are, first, the curious cases which are attributed to violent muscular contraction, in which the kidney is ruptured. The second is the mechanism of the laceration, regarding which many opinions have been adduced. In regard to the former it must necessarily be very rare; the case of Voit serves a good example: A woman was grasped about the waist while waltzing; pain and hematuria followed immediately; the operation was performed for continued bleeding, and when exposed the kidney was found ruptured. Such cases are infrequent and are very exceptionally subjected to operation, and, from what has already been said, are not of great importance.

Kuester's theories of kidney rupture have received the endorsement of the majority of surgeons, and are familiar to all. The sudden adduction of the two last ribs will explain the injury when the violence is applied from a certain direction. His physico-hydraulic theory appears likely, and doubtless would satisfactorily explain the injury in most cases. Multiple ruptures occur sometimes and are explained by Grawitz, who says they are due to fetal divisions of the kidney into "renculi." Other observers claim that kidney ruptures are frequently accounted for by the fact that the organ has been rendered friable through some previous pathologic change.

This is sound and reasonable thinking, but it remains a fact that persons whose renal organs have reached this state of structural change, necessarily cripples the function, are not the people who follow arduous occupations and indulge in violent exercises, and consequently are not those who would be likely to receive kidney or any other injury.

If the above statements are founded on facts, a brief summary would warrant the following conclusion: That through a better classification of cases with reference to the kinds of violence producing this condition, and by the exclusion of all cases having serious complications, early operation under most circumstances would materially reduce the mortality rate in subcutaneous kidney injuries.

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SENIOR NOTES.

Dr. Conley—Mr. Gahl, what is the cause of death in people who have melancholia?

Gahl—Lack of breath.

Business dull at maternity ward, only one case at hospital.

The quiz class is sweating under the weight of severe exercises.

The summer class is composed of 74 registered members.

Tall boys who go spooning on Evanston piers and fall in the lake had better stay at home. For particulars see Ettleson.

The maternity squad of July 16-30 certainly had a fund of abnormal cases, some of which were placenta previs, hydatidiform mole, forceps delivery, twins and two or three more of less importance.

Disney says he would make a good obstetrician, he's so calm.

Dr. Yarros and Ettleson are the best of friends.

Gahl don't improve with the weather.

Psychiatry? What's that?

JUNIOR NOTES.

Last issue presented a reprint of an article by Arthur Lederer, entitled "A New Method for the Determination of Lead in the Urine." The Juniors feel a pardonable pride in their gifted classmate.

George Spencer, Wm. Fortin, Moran, Stawicki, Brinkerhof and Wilson have been visitors at the college. Wilson has a badly infected tonsil which is causing him considerable distress.

Arthur Lederer has been honored by the appointment of Sanitary Inspector of the Board of Health, of Oak Park, Ill., and assumed his new duties on August 10th with becoming dignity and a brand new policeman's star. Arthur informs us that while he has authority to make arrests, he prefers not to cause anybody any trouble, and will content himself with advising violators of the law to obey his orders. We can see whese he shows wisdom.

Summer work is progressing nicely and so far has proven to be much more interesting and practical than the preceding two years.

Since the last issue the class has had the pleasure of welcoming to its midst the only John Eckman, of Decatur.

Dr. Eckman adds dignity to the summer pit assistants as anæsthetist.

Charles Skwar has had the misfortune of becoming ill to such an extent as to necessitate his leaving school and returning to his home. We trust that the summers' rest will put him in shape to resume his studies in the fall.

An error in the last issue of the *Plexus* made it appear that J. S. Spear had received the appointment of pathologist for the Junior year. The appointment was to Carl Meyer.

OBITUARY.

B. F. Jenkins, clerk of the Dispensary of the College of Physicians and Surgeons, died Friday evening, Aug. 10, 1906, at his home on Oakley Boulevard, of heart failure, at the age of 60 years. The many friends of Mr. Jenkins will be deeply grieved to learn of his sudden and untimely death.

MARRIED.

Dr. Benjamin Chase Grout, '05, was married on July 24, 1906, to Amelia Elizabeth Græssle, at Asientos Aguas Calientes, Mexico.

BOOK REVIEW.

THE INFLUENCE OF THE MIND ON THE BODY, by Dr. Paul Dubois, translated by L. B. Gallatin. 12mo., cloth 50c net, by mail 54c. Funk & Wagnalls Company, New York.

This little volume of highly instructive reading matter, deals with the important but little recognized value of treating the mind as well as the body in a certain class of bodily ills. Dr. Dubois cites instances to prove the vast influence of the mind on the body, and while he has had opportunities for observation far superior to those enjoyed by the average practitioner, yet in reading the record of cases one cannot but be profoundly impressed with the value of the information set forth.

The literary style of the book is far above that of the average work to be found on the physician's shelves.

SCHOOL OF PHARMACY. OF THE UNIVERSITY OF ILLINOIS.

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EXAMINATION QUESTIONS OF THE BOARD OF PHARMACY.

We publish in this number of the PLEXUS a set of the questions used by the Illinois Board of Pharmacy, reprinted from the recently published annual report of that body.

This is the first time in many years that the questions have been published and, as candidates for examination are not allowed to retain the question sheets, little publicity has been given them.

The reason assigned for this secrecy was the likelihood of candidates "cramming" for examinations by the use of old questions. This argument is scarcely tenable, however, in so broad a subject as pharmacy, admitting of a great diversity of important points as suitable subjects for examination.

The advantages of publicity are obvious. It gives the candidate an opportunity to properly prepare himself for the examination, which he cannot do without knowing its scope and nature: It gives the pharmacist or teacher a chance to offer well meant and kindly criticism such as will result in improving the character of the examination: It

relieves the members of the examining body from the suspicions, however unjust, which too often accompany secrecy. By all means let the questions be published,—once a year at least.

In subsequent issues of the PLEXUS we propose to print the examination questions of other boards of pharmacy and we invite discussion and comment by our readers.

ALUMNI NOTES.

W. H. Stolte '90, has purchased Walker's drug store at Chicago Heights.

Edward S. Patten, '96, succeeds to the drug business Eustis Patten & Son, Carbondale.

I. V. S. Stanislaus, '95, has been appointed Dean and Professor of Pharmacy of the pharmaceutical department of the Medico-Chirurgical College, Philadelphia.

R. W. Hull '95, and Miss Tessie Hathaway were married recently at Los Angeles, California. They will reside in Chicago. Mr. Hull has a prosperous pharmacy at 1299 Sheridan Road.

Arthur T. Schleder '02, is prescriptionist at the Red Cross pharmacy, Rockford.

A. V. Lane '87, has purchased Cunradi Bros. pharmacy at Wabash Ave. and 12th St. and will consolidate the store with his own on the opposite corner.

Among the graduates who passed the Illinois Board of Pharmacy, July examination, are P. C. Johnson and J. M. Honsik '05, C. D. Gauthier, C. Ed. Hoffman, Walter Mayhew, Fred M. F. Meixner and N. George Fry '06. Mr. Wieschen-droff of the last junior class passed for registered pharmacist and A. L. Herbster. F. J. McCabe and F. S. Wolta of the junior class passed for assistants.

Frank Snodgrass '73, was a recent visitor at the School. He is engaged in the manufacture of pharmaceuticals in Kansas City.

ILLINOIS BOARD OF PHARMACY EXAMINATIONS

The examinations are practical and are intended to thoroughly test the ability of the applicants. They consist of a preliminary test, chemistry, pharmacy, identification of drugs and preparations, dispensing and an oral quiz—six branches in all. The rating in all of these branches is upon the basis of 100, and a candidate must make 450 out of a possible 600 points in order to pass the examination. Under the rules of the board it is not necessary that an average of seventy-five be made in each branch, but a total of 450 points must be made.

The object of the preliminary examination is to test the general qualifications of the applicant. It consists of twenty questions in arithmetic, geography, history, percentage, profit and loss, etc. If a candidate is unable to make a rating of seventy-five in this preliminary test he is not permitted to take the examination in the other branches. The board has found by experience that it is a waste of time for the applicant and the board to permit a candidate who cannot make seventy-five in the preliminary to proceed with the other branches.

Following the preliminary examinations the applicant is given written work in chemistry and pharmacy. Ten questions are usually given in chemistry and twenty in pharmacy. He is then given ten samples of drugs and preparations to identify. In the identification the common name, official name, medical properties and doses are required to be given. The next branch is dispensing. Four prescriptions, such as are met with in the every day work of a pharmacist, are given the applicant to compound. In rating the dispensing, time, neatness of work and condition in which the prescription case is left are taken into consideration. The oral work, which is one of the most important branches, consists of reading prescriptions, doses and a sort of general review of the five other branches.

We give herewith a set of chemistry and pharmacy questions and also samples of prescriptions that were used in one of the examinations during the year:

REGISTERED PHARMACIST—CHEMISTRY.

1. What are Binary compounds?
2. Define Acid, Base and Salt.
3. What is a chemical equation? Give an example.
4. How are several acids having a different amount of basic hydrogen distinguished by name?
5. What is Chlorine? Describe its properties. How is Chlorine water prepared?
6. What is Carbon? In what form does it occur in nature? Describe the preparation and properties of Carbon Dioxide.
7. Write a Chemical Equation for the production of Sulphate of Zinc.
8. What is Bismuth? How is Subnitrate of Bismuth made?
9. Give tests for impurities in distilled water.
10. What are the Alkaloids chemically? How are they obtained from plants?

REGISTERED PHARMACIST—PHARMACY.

1. Write out in correct unabbreviated Latin titles a prescription for a 4 ounce mixture, giving in each teaspoon dose $\frac{1}{4}$ grain Morphine sulph., $\frac{1}{30}$ grain Tartar emetic, 5 grains Muric Acid in Syrup Wild Cherry Bark.
2. Write out the quantities of the foregoing prescription for the four ounce mixture in the metric system.
3. Give correct official titles for Borax, Cream Tartar, Basham's mixture, Monsel's Solution and Fowler's Solution.
4. What Vinegars and Wines are official?
5. Show the work of figuring out the equivalent of 50 grains, 10 grains and $\frac{1}{2}$ of a grain in the metric system.
9. What method would you employ in an emergency case of poisoning by Opium, Corrosive Sublimate, Arsenic, Strychnine and Carbolic Acid?
7. How would you make Spirits Mindererus, Basham's Mixture, Blaud's Pills, and what are the chemical changes taking place in these preparations?
8. Why is Carbonate of Potassium added to Syrup of Rhubarb?

9. Criticise the following prescription, as to chemistry and doses: Iodide of Potassium 1 ounce, Strychnine sulphate 5 grains, Tincture of Iron 2 drachms, Water q. s. 2 ounces.

S. Take a teaspoonful every 2 hours.

20. How much Morphine is needed to make 50 $\frac{1}{8}$ grain doses?

11. What is Spirits Nitrous Ether and what is best to preserve it?

12. Name active principles of Fox Glove, Cinchona Bark, Belladonna Root, Nux Vomica, and Ignatia.

13. Name the best solvent for Camphor, Tartar Emetic, Phosphorus, Iodoform, Iodine.

14. How can you tell Calomel from Corrosive Sublimate?

15. Describe process of making Alcohol.

16. What are Ointments, what Cerates, what Plasters, and what is the essential difference in these preparations?

17. Should alkaloids be prescribed in alkaline solutions? Give reasons for answer.

18. Give brief outline for making Deodorized Opium Tincture and its difference from and advantage over Laudanum.

19. How can you tell a Morphine solution from a Quinine solution? Are the sulphates of Quinine and Morphine soluble in alcohol or water?

20. Is Mercuric Iodide Mercury soluble in water, in alcohol, in Iodide Potassium solution, and does any chemical change occur in last named solution?

ASSISTANT PHARMACIST—CHEMISTRY.

1. What is Hydrogen? Oxygen? Water?

2. What are Hydrates?

3. What are Oxides?

4. Give the symbols for ten elements.

5. What acid radical forms Sulphites? Sulphates? Nitrites? Nitrates? Phosphates?

6. Explain the action of an Acid on a Carbonate.

7. Give the formulæ in symbols for Green Vitriol,

Blue Vitriol, White Vitriol, Calomel, Corrosive Sublimate.

8. What is Chlorine? How is Chloride of Lime made?
9. How do Carbonates and Bicarbonates differ?
10. Write the correct official names of the following Salts: Mg SO_4 ; Ag NO_3 ; $\text{Fe}_2 \text{Cl}_6$; $\text{Na}_2 \text{CO}_3$; K ClO_3 .

ASSISTANT PHARMACIST—PHARMACY.

1. If you want a six-ounce mixture to contain $1\frac{1}{2}$ grains of Quinine and $\frac{1}{30}$ grain of Strychnine to the teaspoonful, how much Quinine and how much Strychnine is required?
2. Describe Sublimation, Distillation and Maceration.
2. Describe process for making an Infusion and a Decoction.
4. How much Water is required to reduce 5 ounces of a 10 per cent. solution of Salts to a 1 per cent. solution?
5. How much Salt is needed to make 60 grammes of a 10 per cent. Solution? State quantities in metric weight.
6. How many drops of a 5 per cent. solution of Morphine are necessary to make $\frac{1}{4}$ of a grain?
7. What is meant by Volume?
8. What is Specific Gravity?
9. What is Menstruum, Excipient, Consistency?
10. Is Camphor soluble in water, Alcohol or Chloroform and which is the best solvent?
11. If Cream of Tartar is mixed with Bi-carbonate of Sodium solution, does any chemical change take place? If so, give reasons.
12. What is pharmacy? What is Materia Medica?
13. Why is the Latin language used in Pharmaceutical official names?
14. What is Opium and what are the principal alkaloids in Opium?
15. What is the equivalent of a teaspoon, a desertspoon, a tablespoon, a wineglass dose in the metric system?
16. What are Fixed Oils, and how obtained?
17. What is an Emulsion? Name a few and state how you make them.
18. What is Lime Water? By what simple test can you

distinguish Lime Water from plain water? How should Lime Water be kept?

19. What is Seidlitz Powder, and what change occurs when the two different articles are mixed in water?

20. Name three official preparations containing Arsenious Acid.

REGISTERED PHARMACIST PRESCRIPTIONS		ASSISTANT PHARMACIST PRESCRIPTIONS.	
R		R	Grammes
Opii pulv.	gr. iii	Opii pulv.	.2
Ext. Bellad.	gr. iii	Olei Theobrom	8.
Olei Theobrom	5 i	M. f. Suppos. iii.	
M. f. Suppos. iii.		S. One at night.	
Use one at bed-time.			
R		R	Grammes
Camphoræ	1Gm	Rhei.	2.
F. pil xii. Name excipient used		Saponis	.6.
S. Una alternis horis.		M. f. pilulæ No. 10.	
		S. One 4 times daily.	
R		R	
Sulphuris Præcip.	5 Gm	Zinci Oxidi	3 i
Petrolati	15 Gm	Petrolati	3 ss
M. ft. Unguentum		M. f. Unguentum.	
S. External use.		S. Apply frequently.	
R		R	
Turpentine Emulsion		Ipecacanhæ	gr. 10
F.	℥i. s. 30 cc	Opii pulv.	gr. 10
S. Coch. parv. t. in die.		Sacch. Lactis	gr. 100
		M. f. Pulveres No. 10	
		S. One 4 t. d.	

The questions given apprentice applicants are usually about the same as eight grade work in the public schools. Our records show comparatively few failures in apprentice examinations outside of the city of Chicago. The major part of the failures in Chicago are attributed to the fact that the applicants are of foreign birth and have not had the advantages of an education in this country.

The following is a set of apprentice questions that was used in one of the examinations during the year:

APPRENTICE EXAMINATIONS.

1. Add 1492, 1076, 503, 86, 413, 19.
 2. Add $2\frac{1}{3}$ and $16\frac{2}{3}$.
 2. Subtract $\frac{2}{3}$ from $4\frac{1}{3}$.
 4. Multiply $9\frac{3}{4}$ by $8\frac{2}{3}$.
 5. Divide $17\frac{1}{2}$ by $7\frac{2}{3}$.
 6. Express the following fractions decimally: $\frac{3}{4}$, $\frac{2}{3}$, $\frac{5}{8}$, $\frac{1}{5}$, $\frac{1}{2}$.
 7. Multiply 9.96 by 7.37 .
 8. Divide 12.5 by 8.42 .
 9. A girl born Aug. 8, 1897, was how old May 5, 1905?
 10. What is 75 per cent. of 5132?
 11. A piece of property costs \$6,090.00; at what price must it be sold to gain 35 per cent.?
 12. A drug stock valued at \$1500.00, was sold for \$1800.00; how much was the gain per cent.?
 13. How many pieces 1 foot by $3\frac{1}{2}$ feet can you make out of goods 15 feet by 35 feet?
 14. What is the interest on a note of \$3500.00 for 9 months 15 days at the rate of 5 per cent. per year.
 15. A gross of bottles cost \$40.00, less 30 per cent. discount; how much does one-half dozen cost?
 16. If one dozen oranges cost 40 cents, how much will 4000 oranges cost?
 17. Name the states in which the following cities are located: Galveston, San Francisco, St. Louis, Philadelphia, Milwaukee.
 18. Name five states south of Illinois.
 19. Give the names of the last five presidents of the United States.
 20. State briefly date and place of your birth; where and how long you attended school; length of time in the drug business, and what you are doing to gain a knowledge of the business.—*From the annual report of the Board of Pharmacy, 1905.*
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THE NAMING OF CARBON COMPOUNDS*.

BY W. A. PUCKNER.

A—An abbreviation for asymmetric, which see.**a**—An abbreviation for ana, which see. **α** —Alpha, the first letter of the Greek alphabet (see Note H). **α** —Abbreviation for anti, which see.**ac**—A prefix derived from alicyclid, which see.**acet**—A prefix showing derivation from acetic acid, CH_3COOH , thus acetaldehyde CH_3CHO , acetanilide $\text{C}_6\text{H}_5\text{NHCCH}_3\text{CO}$.**acetyl**—A prefix indicating the group (CH_3CO) derived from acetic acid, CH_3COOH .**acetonyl**—The radicle ($\text{CH}_3\text{CO}\cdot\text{CH}_2$) derived from acetone, $\text{CH}_3\text{CO}\cdot\text{CH}_3$.**acid**—Organic acids are compounds containing one or more carboxyl (see) groups (see Note G).**acidamide**—Synonymous with amide, which see.**acyl**—An acyl group is the residue obtained when hydroxyl is taken from an organic acid, thus OH taken from acetic acid, CH_3COOH , leaves the acyl group CH_3CO .**al**—The ending indicates an aldehyde, that is the group— $\begin{cases} =\text{O} \\ -\text{H} \end{cases}$, usually written—CHO, thus CH_3CHO is ethanal, $\text{CH}_3\cdot\text{CH}_2\text{CHO}$ is propanal, (see Note G). Exceptions: methylal $\text{HCH}(\text{OCH}_3)_2$ is a compound derived from methyl alcohol (methanol) and formaldehyde (methanal), $2\text{CH}_3\text{OH} + \text{HCHO} = \text{HCH}(\text{OCH}_3)_2 + \text{H}_2\text{O}$. Acetal, $\text{CH}_3\cdot\text{CH}(\text{OC}_2\text{H}_5)_2$, is derived from ethyl alcohol (ethanol) and acetaldehyde (ethanal) $2\text{C}_2\text{H}_5\text{O} + \text{CH}_3\text{CH}(\text{OC}_2\text{H}_5)_2 + \text{H}_3\text{O}$.**alcoholate**—Just as, for instance, aldehydes combine with water to form hydrates, thus $\text{CCl}_3\text{CHO} + \text{H}_2\text{O} = \text{CCl}_3\text{CH}(\text{OH})_2$ so aldehydes combine with alcohols to form alcoholates, thus chloral and ordinary alcohol re-

* Being a compilation of terms, syllables, prefixes and endings commonly employed in the naming of carbon compounds, designed for students in pharmacy and medicine and for pharmacists and physicians.

act: $\text{CCl}_3 \cdot \text{CHO} - \text{C}_2\text{H}_5\text{OH} = \text{CCl}_3\text{CH}(\text{OH})(\text{OC}_2\text{H}_5)$

alicyclic—A cyclic (see) compound belonging to the aliphatic (see) series of hydrocarbons.

aliphatic—The name is derived from a Greek word meaning fat and is often applied to the “Open chain hydrocarbons” because the fats and many of their derivatives belong to this group.

alkyl—A term applied to univalent hydrocarbon radicles, especially of the aliphatic series, thus: (CH_3) , (C_2H_5) . These radicles may be considered as derived from the corresponding alcohols: CH_3OH , $\text{C}_2\text{H}_5\text{OH}$, etc., whence the term alkyl.

allyl—The group $\text{CH}_2:\text{CH}.\text{CH}_2-$, thus propenol, $\text{CH}_2:\text{CH}.\text{C}_2\text{H}_4\text{OH}$, is commonly called allyl alcohol.

alpha—The first letter of the Greek alphabet (see Note H).

aliphyl—Univalent aliphatic hydrocarbon radicles: CH_3- , C_2H_5- , etc. The same as alkyl.

amid—The same as amide, which see.

amide—The term amide is usually used to indicate compounds obtained by replacing the hydroxyl of an acid by NH_2 , thus acetic or ethanoic acid, CH_3COOH , gives ethanamide, $\text{CH}_3\text{CO}(\text{NH}_2)$. Originally the term was applied to all compounds containing the amidogen group NH_3- , and $\text{CH}_3(\text{NH}_2)$, now called methylamine (see amine) is still often called amido methane or methylamide. Similarly $\text{C}_6\text{H}_5\text{NH}_2$, aniline or phenamine, is often called amido-benzene.

amidine—Amides in which the oxygen has been replaced by an imide (see) group, thus ethanamide, $\text{CH}_3\text{C} \begin{Bmatrix} =\text{O} \\ -\text{NH}_2 \end{Bmatrix}$ yields ethane amidine, $\text{CH}_3 \begin{Bmatrix} =\text{NH} \\ -\text{NH}_2 \end{Bmatrix}$.

amido—The group NH_2- . Ethanamide is often called amido ethane.

amin—The same as amine, which see.

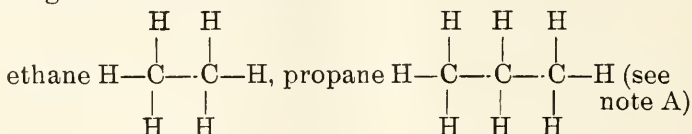
amine—Basic compounds formed from alcohols or phenols by replacing OH with NH_2 , thus $\text{C}_2\text{H}_5\text{OH}$ yield $\text{C}_2\text{H}_5\text{NH}_2$, ethane amine or ethyl amine.

amino—The group NH_2 when it replaces OH of an alcohol, thus ethane amine is also called amino-ethane.

amyl—Indicates a hydrocarbon chain of five carbon atoms, thus $\text{C}_5\text{H}_{11}\text{OH}$ is amyl alcohol and C_5H_{10} is amylene.

ana—A prefix used in indicating position in quinoline derivatives (see note 1).

ane—This ending denotes a saturated hydrocarbon, i. e. a compound in which the carbon atoms are united by single bonds or valencies. thus:



anilid—Same as anilide, which see.

anilide—Anilides are derivatives of aniline (benzene-amine, benzamine or phenamine, $\text{C}_6\text{H}_5\text{NH}_2$) in which a hydrogen atom of the NH_2 group has been replaced by acyl (see) group, thus $\text{C}_6\text{H}_5\text{NH}(\text{CH}_3\text{CO})$ is acetanilide.

anti—A prefix referring to stereoisomerism, thus the two isomeric benzaldoximes are designated syn-benzaldoxime, to indicate that the aldehydic hydrogen is near to the hydroxyl, while in the anti-benzaldoxime they are farther apart from each other.

ar—An abbreviation for aromatic, which see.

aralkyl—A name, meaning aromatic alkyl, applied to monovalent aromatic radicles containing the free valencies in the side chain, thus benzyl, $\text{C}_6\text{H}_5\text{CH}_2$ —.

aromatic—One of the names given to the class of organic compounds which are also known as the closed-chain or benzene series of compounds (compare aliphatic),

aryl—A name applied to monovalent aromatic groups in which the free valence is in the benzene nucleus.

as—An abbreviation of asymmetric, which see.

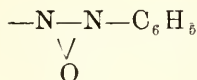
asymmetric—Meaning that the groups or side chains are arranged unsymmetrically, thus 1-,3-, 4-trichlorobenzene is also designated astrichlorbenzene (see note B. c).

atomic—Refer to monatomic, diatomic, triatomic.

az—An abbreviation of azote, meaning nitrogen. Refer to azo, azoxy, etc.

azo—The group $\text{—N}=\text{N—}$, thus azobenzene is called $\text{C}_6\text{H}_5\text{N}=\text{NC}_6\text{H}_5$.

azoxy—The group —N—N— , thus azoxybenzene is C_6H_5
 $\begin{array}{c} \text{V} \\ \text{O} \end{array}$



β—The second letter of the Greek alphabet (see note H).

basic—Compounds that possess the properties of metallic hydroxides or bases, forming salts with acids, etc., are said to be basic. On the other hand, an acid is said to be monobasic if it possess one acid hydrogen atom or ion, which is replacable by a base, dibasic if it possess two such acid hydrogen ions, tribasic if three, etc.

benz—A prefix usually indicating derivation from benzoic acid (see benzal, benzoyl, benzyl.) It is sometime used to denote derivation from benzene (see Bz.)

benzal—The divalent radicle $(\text{C}_6\text{H}_5\text{CH})''$ derived from benzaldehyde, $\text{C}_6\text{H}_5 \begin{cases} =\text{O} \\ -\text{H} \end{cases}$

benzo—The trivalent radicle $(\text{C}_6\text{H}_5\text{C})'''$ derived from benzoic acid, $\text{C}_6\text{H}_5\text{C} \begin{cases} \text{O} \\ \text{OH} \end{cases}$ thus $\text{C}_6\text{H}_5\text{CCl}_3$ is called benzo-tri-chloride. Often the term is used to indicate in a general way derivation from benzoic acid.

benzoyl—The monovalent radicle $(\text{C}_6\text{H}_5\text{CO})'$ derived from benzoic acid, $\text{C}_6\text{H}_5\text{COOH}$.

benzyl—The monovalent group $\text{C}_6\text{H}_5\text{CH}_2\text{—}$

beta—The second letter of the Greek alphabet (see note H).

but—The prefix derived from butyric acid, indicates compounds containing four carbon atoms, thus butane is C_4H_{10} , butene is C_4H_8 , butine is C_4H_6 .

bz—An abbreviation denoting benzene. For its use in the nomenclature of quinuoline derivatives see Note 1.

—From the *Pharmaceutical Review*.

To be continued.

SUGGESTIONS TO THE DELEGATES TO THE SECTION OF PHARMACOLOGY, A.M.A.

By C.S.N. HALLBERG, Chairman.

Aside from the aspects of the Proprietary Medicine Question there are a number of Problems affecting the Relation of Pharmacists and Physicians which the American Pharmacuetical Association through its Delegates to the Sections of Pharmacology desires to present for the earnest consideration of the American Medical Association.

First of immediate importance perhaps is that twin-evil of perennial contention—the prescribing by druggists and the dispensing by doctors.

While this subject is accorded first place it is not because of its general extension or that either of these practices especially affect the better class of either pharmacists or physicians, that is the kind that make-up the membership of the two national organizations respectively, but chiefly because these two practices are constantly referred to by those who intentionally or unintentionally decry the possibilities of any movement for a better understanding and appear to gloat over the prospects of maintaining an open wound in this jointly medical body without favoring any attempt at either remedy or cure.

When the peculiar status of medicine and pharmacy in our country is considered, when despite the improvement in education and legislation the quack is still rampant, the adventurer and confidence man prescribes dopes by thousands under the legal form of proprietary medicines and when every person exercises what he believes is his inalienable American right and privilege to dose not only himself, but also his friends and relatives, the exclusive prerogatives of either the physician or the pharmacist are certainly anything but well defined. To expect therefore that these loose, unscientific and harmful methods would not also be followed by some of those engaged in our respective callings and profession is simply chimerical. But as Dr. MacCormack maintains it would be equally unjust to condemn the pharmaceutical profession as a whole because there are druggists

who counter-prescribe as it would be to condemn the medical profession because there are also sometimes found in it charlatans and advertising quacks and even renegades who exploit their nostrums to thousands under the guise of directing world-famed dispensaries and sanatoria.

While we may not live to see the day when these practices will be entirely abolished, we desire the physicians of this country to understand that the reputable pharmacists of this country as represented by the American Pharmaceutical Association believe that the prescribing of medicines and their dispensing are two separate and distinct functions and that the pharmacist is no more competent to diagnose disease and prescribe the remedy, than is the physician to prepare, compound or dispense medicines. Each function is an important work by itself and imposes equally important responsibilities. The pharmacist is responsible for the identity, purity, quality and strength of the medicines he prepares and dispenses, and being qualified is so recognized by law in every state in the union and the preparation and dispensing of medicines should therefore, except in emergencies, be his exclusive prerogative. That in practice this responsibility has largely become a dead letter is chiefly due to the practice of many doctors to prescribe ready made compounds through which the responsibility, what ever there may be of it, is shifted to the manufacturers, who not infrequently may be some irresponsible anonymous chemical company. As pharmacists we share in the lack of appreciation by the lay-public of the advance made in all branches of medical education of recent years and we hope to have the active aid and co operation of the medical profession in our efforts to improve our status. The American Pharmaceutical Association has begun a systematic movement for advanced education and legislation and would ask the support of the American Medical Association and, through its great organization, the State Medical Societies, in its endeavors to elevate the educational qualifications of pharmacists.

While no positive rules could be enforced at present to control the conduct of either physicians or pharmacists the following declaration is submitted as the basis for establishing at least a *modus operandi*.

1. Pharmacy in its relation to Medicine is a branch of medical science designed to elaborate and perfect improved methods of administration of medicines and to offer such other expert technical aid as may be required in the treatment of disease.

2. While pharmacy and medicine are interdependent each has separate functions and the practice of Pharmacy should be distinct from the practice of medicine. The pharmacist should supplement the work of the physician and not encroach thereon by attempting to diagnose disease or prescribe remedies for which he is neither qualified by training nor experience.

3. Charged with legal responsibility for the identity, purity, quality and strength of drugs, chemicals and medicines the pharmacist should have the exclusive privilege to prepare, compound and except in emergencies, to dispense medicinal remedies.

4. The physician is neither by technical training, experience nor by environment adapted to the preparation, compounding nor except in emergency to the dispensing of medicinal remedies.

5. While the recommending of medicinal remedies to the public by the pharmacist should be discouraged, the demand for domestic medicines and emergencies should we meet with preparations of the U. S. pharmacopoeia and the National Formulary and the sale or exploitation of secret or proprietary medicines should be consistently avoided.

6. The physician who writes the prescription assumes for its entire responsibility and the pharmacist is responsible that the medicine is prepared as ordered. The physician has sole control over the prescription, except that the pharmacist is charged with its custody for the protection of both the prescriber and dispenser. If the prescriber orders that the prescription be not refilled such instruction must be observed.

7. For the better protection of the public, physicians should discriminate in their patronage against drug stores which make a specialty of exploiting patent medicines, profess to sell at "cut rates" and indulge in similar practices inconsistent with the true practice of pharmacy, derogatory to its professional advancement and injurious to the public health.

Substantially these suggestions were presented at the annual meeting of American Medical Association and were referred to a committee for report at the next annual meeting at Atlantic City, 1907.

THE PLEXUS

COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT OF THE
UNIVERSITY OF ILLINOIS,
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A PLEA FOR A CHAIR ON MECHANO-THERAPY.

BY F. V. STUTZKE, M. D.

The successful possibilities of Mechano-Therapeutic administration in certain diseases, as against those of medicine, has not been sufficiently demonstrated in this country to be fully appreciated by the general practitioner. This condition is due either to the lack of literature on the subject, the unwillingness of the profession to study it, absence of demonstrations in hospitals, clinics and practical schools, or to the mercantile commercialism of drugs. A chair on hydro therapy is as essential to a practically equipped school of medical learning, which strives to be modern, as any other branch of scientific medical research.

The modern medical college should give the student the benefit of every advantage possible. The value of the brand bath is thoroughly appreciated today in typhoid and other infectious fevers, where high temperatures and a weak heart is to be combated. The heart in high temperatures is already over-strained, and by prescribing heart stimulants we only temporarily stimulate this organ, leaving it weaker afterward. Medicinal heart stimulants act as a goad or whip would to a tired horse, leaving him weaker after its use, while the enervating properties of the brand bath leave the patient stronger after its administration. In order to rationally employ hydrotherapy in the treatment of disease

it is necessary to know the physiology of the skin, as it is through this medium that changes in all organs of the body are affected. The importance of the functions of the skin is I think underestimated by the general practitioner. The nervous system contained in the skin is composed of both afferent and efferent varieties, which keep the central nervous system posted with conditions outside of the body. Through their epithelial nerve-fibres of Langerhaus, contained in the Stratum Muscosum, the touch corpuscles and discs of Meissner, contained in the papillary loops and Vater-Pacinian bodies contained in the Stratum Subcutanea, all belonging to the sympathetic nervous system of non medullated variety of nerve-tissues, the phenomena of blushes, pallor, Cutis Ansèrina (goose-skin), Edema Cutis, etc., are brought about, the latter by reflex action upon the vaso-motor fibres in the capillary net-work contained in papillæ.

The skin, having a breathing surface of 11,000 square feet, is capable of performing one-third of the work of the lungs, based upon its elimination of water-gas and resorption of oxygen, and more than one-third of the work of the heart, by means of the yellow elastic and vaso-motor nerve-fibres, oscillating rythmically within the true skin. This skin-heart is termed the balance wheel, by Prof. Simon Baruci, to active circulation, the same as the spleen which acts as a local balance-wheel to the liver and portal circulation.

It is essentially an organ of elimination, its resorptive capacity being limited on account of the diffusive centrifugal current and the oily exudations and their deposits on the skin in the form of Sebum. It can fully perform the functions of the kidneys, eliminating urea and other nitrogenous compounds, together with water. It regulates body temperature by retention and radiation of heat and its reflex action on heat-producing and regulating centers, situated in the Medulla Oblongata and spinal cord. The skin has two sets of thermic nerves, one for conveyance of hot and the other of cold impressions, the tactile endings being called hot and cold spots.

Irritation of these spots will convey only one sensation either hot or cold. (Menthol excites cold spots, CO₂ warm spots).

It is an organ of special sense conveying to the brain sense of touch, pressure, space, temperature, pain; also voluptuousness and pleasure, according to the alterations of its nervous system. It is in interdependence directly and indirectly with almost all of the organs in the body. The long, swinging rhythm in which the capillaries oscillate within the skin is independent of the heart and found continuing after all cardiac and motor nerves have been severed. Involuntary contractions and dilatations are going on within our skin of which we are not aware, due to involuntary, non medullated muscular fibres contained in the skin, between the horny layer and true skin, acting as confidence men to the heart.

The skin may harbor pathogenic bacteria, such as staphylococcus, *Pyonenus aureus*, Tuberculous *Lepræ bacillus*, *Proteus Vulgaris*, *Bacterium Coli* and *Pediculi*, giving rise to various kinds of eruptions and dermatitis. Centripital absorption is rendered difficult by the centrifugal current of cellular fluid. Ethereal and alcoholic substances render the skin more resorptive by removing the sebum or oil which covers it.

The impermeability of the skin by minerals, such as are found in mineral waters, has been proven again and again, rendering mineral baths futile as far as absorption of minerals is concerned (Prof. Stas, Baruch, page 428).

When the temperature surrounding the body rises, the amount of blood in the capillaries increases, sweating and evaporation of water ensues. If this evaporation is inhibited, accumulation of heat on the body ensues. The tactile endings of sensory nerves become succulent by imbibing water (endosmosis), thus becoming non-conductive of impressions on account of the pressure of this fluid. If this condition continues for same time the skin becomes macerated and furnuculosis, or breaking down of the skin may ensue.

A lowering of the surrounding temperature of the body causes contraction of the skin, retention of heat by checking perspiration and evaporation.

If this lowering of temperature is sudden it causes *Cutis Anserina*, or goose-skin.

An oily skin radiates 50 per cent. more heat than a dry skin, and this is the reason why people in tropical regions anoint their skins with oil.

FUNCTION OF HAIR.

To facilitate a greater area for the lubrication of the skin by the secretion of the sebaceous glands.

Protection against foreign matter, such as dust, micro-organisms, etc., which would otherwise enter the natural orifices of the body and thereby give rise to infection.

Evolution theory (Hæckel), (Sabourand), (Darwin). Hair is a modification of corns or horny substance through the progress of evolution,

Hair in some animals takes the place of suboriferous glands. More hair, less suboriferous glands, and vice versa. In the Mexican or hairless dog we find a large amount of these glands, while in our northern dogs we find hair instead.

Space will not permit me to describe the different procedures used in Mechano-Therapeutics or Hydrotherapy; however, this resume of the importance which the skin displays in regard to all the organs of the body will show the necessity of the use of Hydrotherapy in medicine, and if I have sufficiently demonstrated this obvious fact, my efforts will not have been in vain.

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In order to induce every one to pay now, we will give to those who pay up their back dues and one year in advance, the METROPOLITAN one year free, sent to any address designated.

All bills not settled by the first day of January, 1907, will be placed for collection.

SENIOR NOTES.

Bissell still remains, he having charge of the maternity classes which continue right on through the vacation period.

There is no doubt in the minds of the Senior class of the advisability of taking the summer work, for by close attention to business one can pretty well clean up the schedule and make the most of the course of medicine.

Earle Nellis couldn't wait for the coming of the vacation period, but had to hustle down into the country to see that girl. Good boy.

Ross Huston has an externship at the West Side Hospital.

Holme ought to have that nose fixed, this being the verdict of one of the Juniors; no doubt he will accept this gratuitous advice and attend to the matter immediately.

Dunshee is the name of a new recruit to the ranks of the class of '07; others are, Alexander Buck, Duffard Fortier. Buck is a D. D. S.

Ettleson has not yet repeated his Evanston experience, but then he has ceased to surprise us.

Hope springs eternal in the Seniors' breast, and now that he has finished Psychiatry he turns his hoping apparatus on medicine.

Graybeal and Conroy have had a nice bunch of experience in the surgical clinics this summer.

Ask Peterson, anent the great national game, what constitutes a time at bat.

JUNIOR NOTES.

The summer course of 1906 is now a thing of the past, and we who have taken to the tall timber are not sorry to get a little fresh air and sunshine before we again embark on the arduous journey after knowledge.

We have had a very good course this summer, and the instructors who gave us the various branches of study are certain of our thankful appreciation of their efforts in our behalf.

Berry dug out for Pike county, only stopping long enough to purchase the necessary piece of card board, which precaution we believe Spear neglected, for when last seen he was walking in the direction of Mason City.

Lederer has the infinite pleasure of acting as chaperone to a young lady cousin who has just arrived from Germany, so we are satisfied that Arthur is spending a very enjoyable vacation.

Gilbert remains in the city during September, probably afraid he would not be able to find the college building unless he calls there every day.

Hayhurst and the editor had a few very enjoyable afternoons at Garfield Park playing tennis with Prof. Dreyer. The professor plays a very good game and made it interesting for us.

Eckman, from Decatur, was with us this summer and acted as one of the assistants in the Junior surgical clinics.

We have not heard from Charlie Skwor since he left for home because of illness, but hope he has completely recovered and will be able to be with us this fall.

NEWS NOTES,

Profs. F. B. Earle, Bernard Fantus and John Porter spent their vacations this summer in Europe. They report a profitable and enjoyable time.

Supt. Brown and Miss Heelan have both had their vacations and both returned imbued with new vigor and resumed their duties with great energy.

The college fence has been replaced by a new and attractive structure, which will withstand several class rushes.

Mrs. Allen will assume the duties of clerk of the dispensary for the present.

The new catalog shows some very decided changes in the schedules, the Sophomore year having been rendered lighter by placing bacteriology in the freshman year, surgical pathology in the Junior and hygiene in the Senior years.

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DENTAL DEPARTMENT

UNIVERSITY OF ILLINOIS.

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BATAVIA, ILL., SEPT. 20th, 1906.

OSLER ON TEETH.

In the general practice of medicine Dr. William Osler, recently of the Johns Hopkins University at Baltimore, and now professor in the University of Oxford, England, probably ranks as the most eminent American physician in the word. To the public at large his chief distinction is due to an after dinner speech in which he suggested that originality in thought or achievement was hardly to be expected from men over forty, and humorously added that the world might not lose much if a lethal dose of chloroform were administered to most men upon attaining the age of sixty; by the members of the profession he adorns his genius and attainments have won him recognition as the foremost of general practitioners.

The very eminence of a physician who has attained such success in his profession is sure to attract a very considerable degree of attention to his public utterances on the part of the community at large, however apparently unimportant may be the occasion on which he speaks. To his professional eminence, however, there is added another powerful element of attractiveness in a public speaker—and that is the ability always to interest his audience from the very be-

ginning in the subject of his address, for Prof. Osler is not only a distinguished doctor, but a delightful talker.

When, therefore, Dr. Osler addressed the students of the Royal Dental Hospital of London recently on the occasion of the distribution of the prizes for the year, it was certain that his speech would be instructive and entertaining. Not only so, but it abounded with suggestions which are worth pondering on this side of the Atlantic as well as in Great Britain.

The traditions of dental art and science in England, said Dr. Osler to these London students in dentistry, were distinctly scientific. They would find evidence of this in the treatise entitled "The Natural History of the Human Teeth," by John Hunter, the great English surgeon and physiologist of the eighteenth century, all of whose writings, on the teeth or any other subject, Dr. Osler earnestly advised his hearers to read. Their vocation would necessarily make them specialists; but they could avoid becoming narrow specialists by the study of such works as Hunter's and those of other great men, and especially the researches of the ablest modern writers on comparative anatomy and bacteriology. Time enough would be found for these studies at all events in the earlier part of each student's career, and the broadening influence of such reading and the consequent observation it would induce were incalculable.

Next, Dr. Osler pointed out the threefold relationship existing between the dental practitioner and his patients. The function of the dentist was, first to relieve suffering; secondly, to increase the digestive capacity of his patients, and thirdly, to preserve the beauty of the human countenance.

There was no need of much comment on the duty to afford relief from pain. The other duties of dentists called for ampler consideration.

Of these Dr. Osler regards the increase of the capacity to digest food of the more important. This end is to be attained by promoting mastication until the food is divided as finely as possible before it enters the stomach. Classifying

the public into two great groups, the Bolters and the Chewers, Dr. Osler says it should be the aim of dental practitioners to convert the enormous percentage of Bolters into Chewers. He predicts that this task will not be easy of accomplishment in Great Britain, although perhaps more so than in the United States.

In this advocacy of thorough mastication as a potent agency in the preservation of health, Dr. Osler seems to approve the views put forward within the last five years in England by Mr. Horace Fletcher and by Sir Michael Foster, professor of physiology at the University of Cambridge, and in this country by Prof. Russell K. Chittenden of Yale college. "The adoption of the habit of a thorough insalivation of food," wrote Sir Michael Foster in 1901, "is found to have an immediate and very striking effect upon the appetite, making this more discriminating and leading to the choice of a more simple dietary, and in particular reducing the craving for flesh food: The appetite, too, is beyond all question fully satisfied with a dietary which has a total considerably less in amount than with ordinary habits is demanded."

The report of Dr. Osler's address indicates that he did not discuss the methods whereby dentists are to induce their patients to practice poltrophagy, as the doctors call minute mastication, from the Greek word poltos, meaning finely divided. In reference to this matter it is interesting to note that a Cambridge anatomist, Mr. Hubert Higgins, who is an enthusiastic student of the subject, regards it as undesirable that the patient should count the number of mastications. Writing in the *Lancet* last spring he said:

"Interest has been taken in the number of movements of the jaw made in the disposal of food. This shows remarkable variations, even in the same individual; they seem to depend on many different causes. Recently I observed that a kangaroo gave over eighty mastications to a piece of bread. In a case that digested starch with difficulty it was often over 150. Mr. Gladstone, it is said, was in the habit of attributing his strength to masticating his food from thirty to thirty-five times. An inquiring friend of mine had the curiosity to count the number at a dinner at Cambridge from the spectators' gallery and found that it was more often from sixty to seventy, so that in reality Mr. Gladstone was

more poltrophagic than he knew. He did not count his mastications, therein showing his habitual wisdom. I feel that it cannot be too much emphasized that there are numbers of cases in which attention to automatic acts is very decidedly harmful. So that this method, unless especially adaptable to certain cases, should be used with caution."

The dentist's duty to preserve the good looks of their patients by preventing the early decay of the teeth is, of course, the most obvious of all, and it is universally conceded that cleanliness is a most efficient means to this end. Constant admonition as to its importance, by dentists to their patients, followed by scrupulous attention to such instruction in the daily care of their teeth by the patients themselves, would doubtless tend greatly to reduce the prevalence of dental disease. Dr. Osler, however, would go further than this. "All school children," he says, "should have their mouths and teeth inspected, and connected with every school board there should be a dental surgeon with a large salary, and he should make a routine inspection of those children and report upon them, and if their teeth were bad or dirty they should be told not to come to school until their teeth were attended to. The child with bad teeth is a danger in a school, and the teeth should be attended to and the country should pay for it."—*N. Y. Sun*.

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THE OPENING OF THE SCHOOL YEAR.

The forty-seventh session of the School of Pharmacy will begin Tuesday, Sept. 25, at 10 o'clock in the morning.

Judging from the early enrollment, the attendance this year will show a substantial increase.

Especially in the Senior class will this increase be evident. More and more each year the students realize the importance of completing the course regardless of their registering by examination before the state board, until now the classes include several registered pharmacists and practically all the junior students who are passed return the following session and take up the senior work.

During the summer material additions have been made to the equipment and the college building is ready for the classes.

AN ADDITION TO THE MUSEUM.

The school has received from Merck & Co., the well-known firm of manufacturing chemists, a most complete and useful collection of their chemicals, ninety-two specimens in all, contained in one-ounce glass stoppered specimen-vials

very suitable for exhibition on the lecture stand. The collection includes the newer synthetics, alkaloidal, salts and glucosides and splendidly supplement the collections already installed at the school.

ALUMNI NOTES.

Ellis Clyde Datin died at Hollywood, California, July 17, 1906. Mr. Datin entered the college in 1894 from Nauvoo, Ill., and upon his graduation two years later was awarded the alumni medal for excellence in scholarship. Shortly afterward he engaged in the retail drug business in Chicago in partnership with a classmate, Mr. R. J. Lauterbach. After a few years the firm was dissolved and Mr. Datin retained the pharmacy at 47th street and Champlain avenue which he conducted with good success until a year ago when failing health induced him to dispose of his drug store and visit California. At the time of his death, Mr. Datin was but 31 years of age; he leaves a wife and one child.

A man of exceptional ability and attainments, thoroughly honest and conscientious in all his relations; of a quiet and studious, yet genial temperament, Mr. Datin was representative of the best type of pharmacists. The news of his untimely death was received with genuine sorrow by his associates.

J. E. Laatz '06 passed the recent examination of the Wisconsin Board of Pharmacy.

Wm. Stroetzel '98 has recently opened a new drug store at Milwaukee and Fullerton avenues, Chicago.

Among the alumni present at the annual meeting of the American Pharmaceutical Association at Indianapolis were: W. A. Puckner '85, A. W. Baer '85, W. B. Day '92, I. V. S. Stanislaus '95, M. M. Gray '99, C. E. Stimson '00, T. I. Scheips '04, C. E. Tilton '06. Professor Hallberg was honored by his election as second vice-president; Professor Puckner was re-elected chairman of the executive committee of the American Conference of Pharmaceutical Faculties.

WOMEN AS DISPENSERS AND UNPHARMACEUTICALLY TRAINED SALES-WOMEN.

By CHARLOTTE E. STIMSON, PH. G.

We deeply appreciate the courtesy of the American Pharmaceutical Association has paid the women pharmacists by giving us an opportunity to say a word for ourselves under the arranged titles of "Women as Dispensers" and "Unpharmaceutically Trained Sales-women."

It is rather a delicate subject for us to speak on ourselves, and modesty forbids us to say all that we might like to say, yet I feel that I can safely mention that while there is much prejudice against women at the prescription case and behind the drug store counter, the prejudice is held only by those who have never employed nor worked with a woman in these capacities.

Most women prescription clerks are of an earnest and intelligent class, and where earnestness and intelligence are, there will you find, also, a high degree of thoughtfulness, exactness, neatness, and a strict adherence to conscientiousness, all of which are very necessary qualifications in one to whom we trust the preparing of the health-restoring compounds to be administered to our loved ones who are ill.

The above qualifications also insure a practice of economics and care, which aids not only the ethical but the commercial side of our profession. Permit me to quote from Chas. R. Sherman, of the Sherman & McConnell Drug Co., of Omaha, Neb. He says: "The experience of our firm in employing women as assistants, in the dispensing, office and sales departments, has been most satisfactory, in fact, at times it has seemed that we could not well have run our business without them. The well-known scarcity of good drug clerks, as well as clerks in every other line, has naturally and most tardily turned the attention of employers to the army of capable young women who wish to become self-supporting. There still exists in many quarters a pre-

*Read at the 44th annual meeting of the American Pharmaceutical Association, held at Indianapolis, Ind., September 3-5, 1906.

judice against the employment of women in any capacity, but this feeling is found generally with those who have had no experience in this line. We have found that as regards the physical capacity of women to stand the reasonable requirements of pharmacy, woman compares favorably with man—as to accuracy, reliability and loyalty, she is fully his equal.

At the present time we have one woman prescription clerk, who is both a graduate in pharmacy and a licentiate of the State Board, who has been with us a number of years, and whose work compares favorably with that of any male clerk. Her work with us has been entirely in the prescription department, as she was a legally qualified pharmacist when she came to us. She performs all of the duties that are required of any other employee in that department.

Our book keeper is a woman, who has held the position with great satisfaction to ourselves, and has not only mastered the correct copying of names, addresses and amounts, but has proven herself capable of taking up the burden of book keeping with all that it implies, and has also, in quite a degree, mastered the matter of prices and technical names, as well as keeping in touch with the credit of our numerous patrons.

In our store the duties of our stenographer include the opening of the mail and the entry of credits for remittances and mailing receipts for same, etc., the daily making up of a bank deposit and taking same to bank, and many other duties which in many stores are performed by one of the proprietors.

As to sales ladies at the counter, our experience has been equally gratifying. Some of our most popular clerks are young ladies, and we notice that the sales-tickets they turn in at night foot up nearly as much as our very highest grade male help. One of our sales ladies has been with us eight years. and she looks happy.

At our warehouse and laboratory, which are near our store, a woman has charge of the plant, receiving all goods and checking all invoices, as well as being accountable for

the condition of the stock, as to cleanliness and order. The morning cashier arrives promptly at 7 o'clock and carries the key to the store, leaving at 6 in the evening, while the afternoon and evening cashier arrives at 12:45, carries a key and closes the store at 11:30.

We do not wish to make the statement that women on whole are more accurate, more tidy, more reliable or more honest than men, but we are positive in the statement that as many accurate, reliable, honest and capable ones can be found. and that generally speaking there is quite a difference in her favor in the point of reliability and steadiness. A most frequent fatality which seems to overtake young women is getting married, and we are sure that no gallant member of the male sex will complain at this."

This comes from a man that is president and secretary of a company which has for years employed in a prominent pharmacy women prescription clerks and un-pharmaceutically trained sales-women; therefore "he knows whereof he speaks," and his words show to what a great extent trust and confidence is placed in woman employees. Such evidence, and from such a man argues more for women in a pharmacy, and is more convincing than all we could say, or would, in our modesty, dare say for ourselves.

THE NAMING OF CARBON COMPOUNDS.*

By. W. A. PUCKNER.

Carbamate—A derivative, salt or ester, of carbamic acid, $\text{CO}(\text{NH}_2)(\text{OH})$, thus $\text{CO}(\text{NH}_2)(\text{OC}_2\text{H}_5)$ is ethyl carbamate (urethane.)

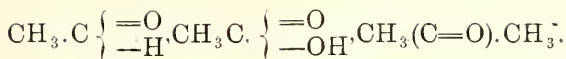
Carbamide—The amide of carbonic acid, $\text{CO}(\text{NH}_2)_2$ also called urea.

carbinol—A synonym for methanol or methyl alcohol. See also Note D. c.

carbocyclic—Applied to cyclic (see) compounds in which the ring consists of carbon atoms (compare heterocyclic.)

carbonyl—The group =C=O found in aldehydes, acids and ketones, thus:

*Continued from page 363.



carboxyl—The group—C $\left\{ \begin{array}{c} \text{=O} \\ \text{---OH} \end{array} \right\}$, i. e. carbonyl hydroxyl. It is usually written COOH or CO₂H. Organic acids owe their acid function to this group (see note G.)

carbylamine—The monovalent group (NC)', thus C₆H₅NC is phenyl-carbylamine. Carbylamines are also called isocyanides and isonitriles.

chlorhydrate—See hydrochlorate.

cinnamoyl—The monovalent radicle (C₆H₅CH:CH.CO)' derived from cinnamic acid, C₆H₅CH:CH.COOH.

cinnamyl—The radicle (C₆H₅CH:CH.CH₂)' derived from cinnamic alcohol, C₆H₅CH:CH.CH₂OH.

cyclo—A prefix indicating "closed chain" or "ring" compounds, thus

cyclopropane is $\begin{array}{c} \text{CH}_2 \\ \triangle \\ \text{CH}_2 \end{array}$ cylo-hexatriene is berzene (see note C.)

D—An abbreviation of dextrogyre (see dextro.)

Δ—Delta, the fourth letter of the Greek alphabet (see note H.)

Δ—The letter is also used to indicate double bonds (see note H, c.)

dec—A prefix, derived from deca, meaning ten, thus decane is C₁₀H₂₂, decene is C₁₀H₂₀.

delta—The fourth letter of the Greek alphabet (see note H.)

dextro—An abbreviation of dextrogyre, i. e. rotating polarized light to the right.

di—Prefix indicating two, thus dichlorethane is C₂H₄Cl₂, ethane diol is C₂H₄(OH)₂.

diatomic—Alcohols and phenols containing two hydroxyl groups, diols, are said to be diatomic.

diazo—A prefix indicating the group N:N(di-|azo) thus C₆H₅N:N.Cl is diazobenzene chloride.

do—A prefix indicating two, thus C₁₂H₂₆ is dodecane (do-|dec.-|ane.)

ε—The fifth letter of the Greek alphabet, epsilon (see note H.)

en—(see ene.)

ene—The suffix *-en* or *-ene*, generally indicates the unsaturated group $C:C$, thus $CH_2:CH_2$ is ethene (eth·ene). Exceptions: terpene, naphthalene, anthracene, etc.

enol—The suffix *enol* (*en*-|*-ol*) indicates an unsaturated alcohol, thus CH_2CHOH is ethenol.

epsilon—The fifth letter of the Greek alphabet (see note H.)

ester—Esters are compounds in which the hydrogen ions of acids, organic or inorganic, have been replaced by organic radicles, thus acetic acid, CH_3COOH , and ethyl alcohol, C_2H_5OH , form $CH_3COO(C_2H_5)$, acetic acid-ethyl-ester or ethyl acetate.

eth—A prefix indicating compounds with two carbon atoms, thus C_2H_6 is ethane, C_2H_5OH is ethyl alcohol or ethanol, etc.

ether—Ethers are oxides of monovalent hydrocarbon radicles, thus ethyl-ther (Ether, U. S. P.) is $C_2H_5O.C_2H_5$. See oxy.

ethenyl—The monovalent radicle $CH_2:CH$ —derived from ethene.

ethidine—See ethylidene.

ethinyl—The monovalent radicle $CH:C$ —derived from ethine.

etho—The monovalent group CH_3CH_2 when it is contained in a side chain. See note A.

ethoxy—The group $(CH_3.CH_2O)$ derived from ethyl alcohol CH_3CH_2OH .

ethyl—The monovalent radicle $CH_3.CH_2$ —, derived from ethane.

ethylal—The monovalent radicle $-CH_2CHO$ derived from ethanal, $CH_3.CHO$, and still retaining its aldehyd group.

ethylol—The monovalent radicle $-CH_2CH_2OH$ derived from ethanol and still containing the alcohol group.

ethylene—A synonym for ethene. Also applied to bodies containing the group $-CH_2CH_2-$, being derived from ethene, thus 1,2-dichlorethane, $CH_2Cl.CH_2Cl$ is also called ethylene chloride.

ethylemy—The trivalent radicle $(C_2H_3)'''$. See also ethyldene.

ethyldiene—The divalent radicle $(CH_3.CH)''$, thus 1,1-dich-

lorethane chloride or ethidine chloride. The term has also been used to indicate the radicle $\text{CH}_3\text{C}'$ thus choral, CCl_3CHO , has been called trichlor ethidine aldehyde.

Figures—For numerals 1, 2, 3, etc., see note B.

five—See note B.

form—A prefix denoting derivation from formic acid (methanoic acid) HCOOH , thus formaldehyde is $\text{HC} \begin{cases} =\text{O} \\ -\text{H} \end{cases}$, formamide, $\text{HC} \begin{cases} \text{O} \\ -\text{NH}_2 \end{cases}$

γ —See gamma.

gamma—The third letter of the Greek alphabet. See note H.

Greek alphabet—See note H.

Hept—Indicates seven, thus heptane is C_7H_{16} , heptene is C_7H_{14} .

heterocyclic—A cyclic carbon compound containing besides carbon one or more other elements in the ring.

hex—Indicates six, thus hexane is C_6H_{14} , hexene is C_6H_{12} .

hydrazine—Bodies derived from diamide, NH_2NH_2 , thus $\text{C}_6\text{H}_5\text{NH.NH}_2$ is phenyl hydrazine.

hydrazo—Indicates the group $-\text{NH.NH}-$, thus $\text{C}_6\text{H}_5\text{NH.C}_6\text{H}_5$ is hydrazobenzene.

hydride—A hydrogen derivative, thus ethane may be considered as derived from ethyl alcohol, $\text{C}_2\text{H}_5\text{OH}$, by replacing the hydroxyl group by hydrogen, $\text{C}_2\text{H}_5\text{H}$ and hence is sometime called ethyl hydride. Similarly cyclohexane may be considered as derived from benzene by addition of six hydrogen atoms and then is represented by the formula C_6H_6 and called benzen hexahydride.

hydrobromate—See hydrobromide.

hydrobromide—The bromides of organic bases, such as aniline, the alkaloids, etc., are commonly called hydrobromides or hydrobromates, in the same way and for the same reason that ammonium bromide was formerly called ammonia hydrobromide.

hydrochlorate—The same as hydrochloride.

hydrochloride—The chlorides of organic bases are commonly called hydrochlorides or hydrochlorates. Compare hydrobromide.

hydroxyl—The monovalent group (OH)', considered as derived from water (hydrogen oxide).

i—An abbreviation of inactive, which see.

id—See amid, olid, anilid, etc.

ide—The same as id.

imid—Indicates compounds containing the group=NH, thus $\left. \begin{array}{l} \text{CH}_2.\text{CO}- \\ | \\ \text{CH}_2.\text{CO}- \end{array} \right\} \text{NH}$ is butanimid.

in—See ine.

ine—a) The ending -in or -ine indicates the unsaturated group $\text{—C}\equiv\text{C—}$, in which two carbon atoms appear to be trebly bound, thus $\text{CH}:\text{CH}$ is ethine, CH_3CCH is propine. See note C, b. — b) In the naming of proximate principles of plant products the ending -ine has in America been given to alkaloids, thus atropine, morphine, strychnine, while the ending -in is applied to certain active constituents of plants which are neutral or non-alkaloidal, thus aloin, emodin, etc.—c) In many common names such as glycerin or glycerine, naphthalin or naphthaline the ending has no significance.

iodo—The prefix iodo- is sometimes used to indicate the element iodine this iodobenzene is $\text{C}_6\text{H}_5\text{I}$, but the term is also used to indicate the group —IO_2 ; see iodoxy.

iodoxy—The monovalent radicle $\text{—I} \begin{cases} =\text{O} \\ =\text{O} \end{cases}$, thus $\text{C}_6\text{H}_5\text{IO}_2$ is iodoxybenzene. See also iodo-.

iodoso—The monovalent radicle $\text{—I}\equiv\text{O}$, thus $\text{C}_6\text{H}_5\text{IO}$ is iodosobenzene.

ios—When a hydrocarbon contains a branched chain, that is, contains a carbon atom which is combined with more than two other carbon atoms it is often distinguished from the isomeric normal (see) hydrocarbon by the prefix iso- thus $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$ is normal pentane and $\text{CH}_3\text{CH}(\text{CH}_3).\text{CH}_2\text{CH}_3$ is called isopentane.

ium—Just as the names of basic elements end in -ium, thus

sodium, potassium, calcium, and the basic group (NH_4)' is called ammonium, so in the naming of organic compounds the ending denotes basic compounds. See oxonium, sulphonium. It has been proposed to give this ending to the vegetable bases or alkaloids, thus morphium sulphate, atropium chloride, etc.

Keto—Indicates a ketone (see), thus a ketohexose is a hexose containing a ketone group.

ketone—Compounds contain the group =C=O combined with two hydrocarbon radicles, thus $\text{CH}_3\text{CO}\cdot\text{CH}_3$ is dimethyl-ketone (see—one.)

L—An abbreviation for laevo, which see.

lact—The syllable denotes derivation from milk, thus lactose is milk sugar, lactic acid is an acid obtained from milk, etc.

lactone—A name applied to a class of compounds derived from alcohol acids by the elimination of water, thus

$$\text{CH}_3\text{OH}\cdot\text{CH}_2\text{CH}_2\cdot\text{COOH}=\text{H}_2\text{O}-\underset{\text{O}}{\underset{|}{\text{CH}_2}}\cdot\text{CH}_2\text{CH}_2\cdot\text{CO} \quad (\text{see olid.})$$

laevo—An abbreviation of laevogyre, indicating that a substance deflects polarized light to the left.

M—An abbreviation of meta, which see.

mercaptol—Synonymous with thiol, which see.

meso—Meaning inactive or without effect on polarized light thus mesotartaric acid.

meta—The prefix meta or m- is used to designate the 1:3 position in di derivatives of benzene, thus 1,3-dibrombenzene is also called meta dibrombenzene (see note B,c.)

meth—The prefix denotes that a compound contains only one carbon atom, methane is CH_4 , methyl is (CH_3) ', methanol is CH_3OH , etc.

metho—Indicates the group (CH_3) ' when it is a branch of a side chain (see note A).

methoxy—see methoxyl.

methoxyl—The group $-\text{O}-\text{CH}_3$, obtained by substituting methyl for the H in a hydroxyl group. It may also be considered as derived from methyl alcohol CH_3OH by elementation of the hydrogen of its hydroxyl.

methyl—The monovalent radicle (CH_3),

methylene—The divalent radicle (CH_2)", thus di-iodomethane, CH_2I_2 is also called methylene iodide.

monatomic—Alcohols and phenols containing one hydroxyl group are said to be monatomic, thus ethyl alcohol, $\text{C}_2\text{H}_5\text{OH}$, phenol $\text{C}_6\text{H}_5\text{OH}$, etc.

mono—One, thus $\text{C}_2\text{H}_5\text{Br}$ is mono-brom-ethane.

N—An abbreviation of normal, which see.

nitrile—The organic cyanides are preferably called nitriles, thus CN_3CN is methane nitrile.

nitro—A prefix indicating the group $-\text{NO}_2$, derived from nitric acid by abstracting OH , thus nitro-ethane, $\text{C}_2\text{H}_5\text{NO}_2$, nitrobenzene, $\text{C}_6\text{H}_5\text{NO}_2$. Glycerine trinitate, $\text{C}_3\text{H}_5(\text{NO}_3)_3$ is wrongly often called nitroglycerine.

normal—Aliphatic hydrocarbone in which no carbon atom is combined with more than two other carbon atoms are said to be normal, thus $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$ is normal pentane (compare iso-).

numbers—See numerals.

numerals—For the use of numerals in indicating the position of groups, or side chain (see note B).

O—Abbreviation for ortho, which see.

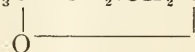
ω —Omega which see.

oic—See note G.

ol—A suffix indicating hydroxyl, the (OH) group, thus CH_3OH is methanol. (See note D.) Exceptions: benzol, toluol, xylol.

ole—The same as -ol.

olid—The ending is given to anhydrides of alcohol-acids (alcohol anhydrids) or lactones (see.) Greek letters or else numerals are used to indicate the relative position of the carbonyl group and the carbon atom combined with the alcoholic oxygen, thus $\text{CH}_3\text{CH}(\text{CH}_2)_2\text{CH}_2\text{CO}$ is pentan-



olid (1:4).

omega—The last letter of the Greek alphabet (see note H.)

one—The syllable indicates the ketone group $\text{R}'\text{CO}\cdot\text{R}'$, thus propanone or acetone is $\text{CH}_3\text{CO}\cdot\text{CH}_3$ (see note F.) Also compare sulphone.

one—For significance of one see note B.

ortho—The prefix ortho- or o- is used to indicate the 1:2 position of di derivatives of benzene compounds (see note B, c).

ose—The ending “ose” indicates a sugar, thus lactose, glucose, fructose, sucrose, etc.

—From the *Pharmaceutical Review*:
(To be continued.)

QUESTIONS OF THE PENNSYLVANIA PHARMACEUTICAL EXAMINING BOARD.

A.—How would you prepare the following prescription, and give the reason for your method:

R Adeps Lanæ..... ̄ vi
Aqua..... ̄ i
Sodii Salicylas..... ̄ j
Methyl Salicylas..... ̄ j
Menthol..... gr. xv

Ft. Ungt. s. For local use.

B.—R Solut. Phenolis, 10 per cent. 10 ̄ viii

- (1) How would you prepare the above? (2) State why.
- (3) What percentage of Phenol is soluble in water?
- (4) What will increase the solubility of Phenol in water? (5) What percentage is soluble in alcohol?

C.—R Lanolini, Ichthyol, ana ̄ j

Ft. Ungt. s. Apply frequently.

- (1) How much would you charge for this prescription?
- (2) If Lanolin costs 75 cents per pound (avoirdupois), how much will a troy ounce cost? (3) If Ichthyol costs \$4.50 per pound avoirdupois, what will a troy ounce cost?

D.—(1) What is toxin? (2) What is Antitoxin? (3) Define Serum. (4) What is Antistreptococci Serum used for and what is the dose? (5) What is the dose of Antidiphtheritic Serum, as directed by the U. S. Pharmacopœia, eighth revision? (a) What is the immunizing doze as directed by the same authority?

E.—Wool Fat. (1) Give the Latin official names for the two official Wool Fats. (2) What is the difference be-

tween the two? (3) Describe the two preparations. (4) At what temperature do they melt? (5) Wool Fats form one of the ingredients of seven important pharmaceutical preparations, mention some of them and the kind of wool fat employed in each.

F.—Spirit of Nitrous Ether. (1) What is it as defined by the U. S. Pharmacopœia, eighth revision? (2) What should be its strength when freshly prepared, and how should it be kept? (3) Why is the Monohydrated Sodium Carbonate used in the process of manufacture? (a) Why is the Potassium Carbonate used? (3) Describe it and give its medical properties and uses. (5) What is the specific gravity of the official preparation? (a) At what temperature is it directed to be taken? (b) What was the specific gravity of Spirit Nitrous Ether according to the Pharmacopœia of 1890, and at what temperature was it directed to be taken? (c) Why was this important change in temperature and consequent change in specific gravity made in the eighth revision of the U. S. Pharmacopœia?

G.—Aromatic or Medicated Waters. In the new Pharmacopœia (the eighth revision) eighteen medicated waters or solutions are given; some are made by distillation, some by trituration, some by solution and others by æration. (1) Give the names of those made by distillation. (a) In making distilled water it is directed that 1,000 volumes of water be used, and only 800 volumes of the distillate retained for use, the first and last 100 volumes being rejected; give the reason for this. (2) Name those made by trituration. (a) What substance or triturant is used to diffuse the oils through the water? (b) What triturant was used according to the Pharmacopœia of 1890 and why was this change made? (3) Mention those waters made by solution and state how this is affected. (4) Mention those official gaseous solutions made by æration and classed as waters. (5) Are the medicated waters in the various processes above mentioned made with

distilled or common water?

H.—Amyl Nitrite. (1) Give the official Latin name. (5) What is it chemically, and what is its chemical formula? (3) Describe it and state how it should be kept. (s) What are its properties and uses? (5) Give the dose for internal use and for inhalations.

I.—Cresol. (1) What is Cresol? (2) Describe it. (3) How should it be kept? (4) What are its medical properties and uses? (5) What important official antiseptic and disinfectant fluid is made from it? (a) Under what other commercial names are similar disinfectant fluids frequently sold?

K.—Give the official Latin names and average dose of the following drugs: (1) Corrosive Sublimate. (2) Sugar of Lead. (3) Codeine Sulphate. (4) Cocaine Hydrochloride. (5) Chloralformamide. (6) Betanaphthol. (7) Guaiacol. (8) Iodoform. (9) Iodol. (10) Sodium Arsenate.

L.—Formaldehyde. (1) In what form is this official in the 8th revision of the U. S. Pharmacopœia? (2) How much absolute Formaldehyde by weight is it required to contain? (3) What is it the product of? (a) Describe it. (4) What are its medical properties and uses? (5) What is it often used for unlawfully? (a) Mention the best known antidote for its poisonous effects.

M.—Give the botanical names of the following drugs: (1) Wormwood. (2) Pleurisy Root. (3) Calamus. (4) Blue Cohosh. (5) Irish Moss. (6) Iceland Moss. (7) Pumpkin Seed. (8) Poke Root. (9) Wild Cherry. (10) Blackberry.

N.—Give the meaning of the following well-known therapeutic terms and mention at least two drugs or pharmaceutical products applicable to each class: (1) Diuretic. (2) Anodyne. (3) Antipyretics. (4) Carminatives. (5) Anthelmintics.

O.—Salicylic Acid. (1) How does it exist naturally and from what natural products may it be obtained? (2)

From what is it obtained synthetically? (3) Describe it and give its medical properties and uses, also give its dose. (4) If Salicylic Acid costs 48 cents per pound and Sodium Bicarbonate 5 cents per pound, and the market price of Sodium Salicylate is 50 cents per pound, will it profit you to make your own Sodium Salicylate, especially when you remember that much of it is dispensed and used as a 50 per cent. solution, thus saving time and expense of drying and powdering the entire product; the following quantities will yield one pound of the finished product or two pounds of 50 per cent. solution: Salicylic Acid, 11 oz. and 2 drachms; Sodium Bicarbonate, 6 oz. and 6 drachms; water, q. s.; what will be the cost of your product as compared with the market price. and what will be your profit? (5) How would you detect the presence of Salicylic Acid in suspected fruit syrups and juices?

P.—(1) Give the official Latin name for Chlorinated Lime (so-called Chloride of Lime). (2) How is it prepared? (3) What is it used for? (4) What gaseous element does it contain? (5) What percentage of this gas should be available? (6) Give the Latin and common name of the official preparation made from it. (7) Give the official Latin name for Calcium Chloride. (8) Give its chemical formula. (9) How may it be prepared? (10) What effect have soluble carbonates upon this solution?

Q.—(1) What ingredients are used in making Massa Hydrargri? (2) What percentage of metal does it contain? (3) Give the common names for this preparation. (4) Why is long continued trituration necessary? (5) Give test for limit of Mercurous Oxide? (6) Give test for absence of Mercuric Oxide. (7) What are its medical properties? (8) What is the dose?

R.—*Strophanthus*. (1) Give the name and character of the plant from which it is derived. (2) Give its habitat. (3) Name the official preparation made from it.

(4) What part of the plant is used? (5) Give its medical properties and uses.

S.—Chloroform. (1) What is Chloroform? (2) Give its specific gravity. (3) Is it inflammable? (4) How is it made? (5) What is Spirit of Chloroform? (6) By what other name is it known? (7) How is Chloroform water made? (8) How is Chloroform Liniment made? (9) Give the medical properties and uses of Chloroform. (10) Give the maximum dose for internal use.

T.—(1) What are Alkaloids? (2) What are Alkalies? (3) What are Acids? (4) What are Salts? (5) What are Acid Salts? (6) What are Basic Salts? (7) What is a Neutral Solution. (8) What is a Saturated Solution? (9) What is a Super-saturated Solution? (10) Name the official solutions.

U.—Convallaria. (1) Give the common name or synonym of this plant. (2) What part of the plant is official? (3) What official preparations is made from it? (4) Name two important active principles in use which have been isolated from it. (5) What are its medical properties?

V.—Copaiba. (1) What is it, and from what is it derived? (2) Describe it and state from what countries it is chiefly obtained. (a) There are four commercial varieties of Copaiba, which of them is esteemed the best, and why? (3) Describe Massa Copaibæ, and state how it is made. (4) What is Resina Copaibæ and how is it obtained? (a) Describe it. (5) Give medical properties and uses.

W.—Cantharis. (1) Describe them. (2) From what countries are they obtained? (3) How are they collected and prepared for market? (4) Which is considered the most valuable variety? (5) What official preparations are made from them? (a) What important change has been made in one of these preparations according to the 8th revision of the U. S. Pharmacopœia?

X.—Camphor. (1) What is Camphor? (a) Describe it.

(2) From what is it derived and how? (3) From what countries is it obtained? (4) Into what official preparations does it enter? (a) Give the percentage of Camphor in each. (5) What are its properties and uses, and what is the dose of Camphor?

Y.—Ichthyol. (1) What is Ichthyol? (2) Give its synonym. (3) Describe it. (a) What percentage of Sulphur does it contain? (4) What are its medical properties? (5) What is it chiefly used for and how? (a) Give the dose for internal use.

Z.—(1) What is the best method for reducing Camphor to a fine powder? (2) What is the best method for reducing Asafœtida to a fine powder? (3) How would you reduce Colchicum seed to a fine powder with mortar and pestle? (4) Infusions are generally made with boiling water, allowed to macerate, and strained when cold; why is the official infusion of Wild Cherry directed to be made with cold water and by percolation? (a) Why has 20 per cent. of Glycerin been added to this formula according to the 8th revision of the U. S. Pharmacopœia? (5) Why should a white paper filter be used for filtering solutions of Sodium Salicylate and not the ordinary dark ones? (6) Why should tablets and powders containing Camphor be kept in a cool place? (7) Why should Santonin and tablets and troches containing Santonin, be kept in dark bottles remote from light? (8) Why should ointment of Mercuric Nitrate be removed from its container with a bone or horn spatula? (9) Why is Potassium Carbonate added to the official ointment of Potassium Iodide? (10) Why is Solution of Potassium Hydroxide used with the usual alcoholic menstruum for marking the official Fluidextract of Sene-gæ?

The following are samples of original spelling by candidates before the State Examining Board, viz.: Pleurism, Calamusium, Ireshæ Mossæ, Icelanium Mossæ, Pumpkinim, Radix, Blackberriom.

THE PLEXUS

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OPENING ADDRESS.

By D. N. EISENDRATH, A. B., M. D.

Adjunct Professor of Surgery, College of Physicians & Surgeons.

It has been the custom for many years to select one of the members of the Faculty to start our hive of industry every fall by a few words of welcome. To those who are new-comers we extend our greetings and best wishes for a pleasant and profitable stay in our midst. We shall do all in our power to give you the best course any medical school officers. □ To you who have spent one or more years in the Medical Department of the University of Illinois, these greetings are superfluous. You have already participated in the friendly relations which exist between teachers and students in this institution.

After a breathing spell during the summer and having communed with Dame Nature everyone returns full of enthusiasm for the winter's labors. With replenished stocks of energy, no amount of work seems too much. Save both your enthusiasm and energy for you will have need for both. He who wishes to succeed both in the study and practice of medicine must not have enthusiasm and energy of the skyrocket type. It is the steady untiring worker who keeps them up to a maximum height, year in and year out who succeeds. In the language of Longfellow we can say

“Ever upward, ever onward
With a heart for any fate
Still achieving, still pursuing
Learn to labor and to wait.”

The College of Physicians and Surgeons celebrated its twenty-fourth birthday this evening. Few remain of its original faculty, but these few and our Dean are types of the ever enthusiastic medical teacher, men whose energy have steered the ship away from the dangerous rocks through stormy seas to the smoother paths of well-earned success.

Our Dean is an example of limitless enthusiasm and energy. These traits endear him to every undergraduate as well as graduate of this college. Some of you will begin your medical studies tomorrow, others take up the thread where it was left in June or a month ago. After building the foundation in our laboratories you will pursue practical work at the bedside or clinic room, Let me suggest that should you have any spare time you will find a most interesting and profitable pastime in a study of the history of how all of the different branches of our profession originated.

The perusal of the biographies of those who were the builders is most fascinating reading and a knowledge of medical history will make you broader-minded and more tolerant of even our present shortcomings. You will learn more than ever to appreciate the fact that you have entered a profession whose ranks have been and are full of men and women willing to devote their whole lives that the entire human race may be benefited. It is of two men of this type that I wish to speak this evening, viz., Pasteur and Lister, and their influence upon the development of modern surgery.

Those of the present generation who see the surgeon undertake the most difficult of operations or who visit hospitals equipped with most elaborate facilities for surgical operations can scarcely appreciate that this is all a matter of 30 to 40 years. Both medicine and surgery were such a contrast in those days to what they are now that it would

seem as if centuries separated us. Surgery has made more progress in the past 35 years than in the 3000 years preceding them. We owe this wonderful record to Louis Pasteur and Joseph Lister.

When Napoleon heard of any one for the first time he used to ask, "What has he done?" Profiting by Pasteur's discovery of the role which germs play in the production of various conditions Lister has changed the whole face of surgery. He transformed an uncertain and limited art into an applied science with almost unlimited possibilities of expansion. No two men have done so great a work for the advancement of scientific medicine.

In order to appreciate the full value of their work it is necessary to understand the condition of surgery 40 years ago. Velpeau said, "A pin prick is a door open to death." That open door widened before the slightest operation. The lancing of an abscess sometimes had such serious consequences that surgeons hesitated before the slightest use of the knife. At the very moment when the surgeons' opportunities were widened through the discovery of chloroform and ether, during the early part of last century, he was discouraged and dismayed at the complications following an operation such as erysipelas, pyemia, gangrene, septicemia and purulent infection.

Mikulicz said, in his contribution to the Lister Jubilee Number of the British Medical Journal of December 13, 1902: "In Billroth's clinic at Vienna, erysipelas, hospital gangrene and pyemia filled the wards with terror. All surgical operations were often deferred for months because wound infection could not be subdued. The surgeons and their assistants washed their hands well after the operation, but before it this was considered a superfluous luxury. Even as late as 1875 every operation in which the wound had to be closed was considered dangerous."

Before Lister's time a compound fracture was regarded as a most serious injury, a fatal issue occurring from blood poisoning in over two thirds of the cases. Ligatures were of nonabsorbable material and were left long to come away

by ulceration. There were no clinical thermometers and when blood poisoning occurred it was said to be due to the constitution of the patients.

Ambroise Pare correctly said, "I dressed him, God healed him." Pain having been abolished by the use of ether and chloroform patients submitted willingly to operations in order to be restored to health. In the absence of any certain knowledge of the mode of causation or prevention of the wound diseases, the surgeon felt no real responsibility regarding them. When his patients died and his heart was well nigh broken by these terrible visitants, he received the sympathy of his friends and pupils. He had done his work well and a hail in harvest had come to destroy it. He was in no way to blame, but was [a man beset by misfortune.

It was thought best to discourage operations. Often the environment was blamed for the poor results, but efforts to correct this by operating in new buildings did not improve matters. The following quotation well expresses the feeling of the period of which I speak. "When an amputation is necessary, think ten times about it, for too often when we decide upon an operation we sign the patient's death warrant." Dressing material, sponges and instruments were left lying around and no effort made to clean them before use in operations.

Between April 1 and May 10, 1856 sixty-four fatalities occurred out of 347 confinements at the Paris Maternity Hospital. The hospital had to be closed and the survivors took refuge at another one where they nearly all succumbed, pursued, it was thought, by the epidemic. It was no unusual occurrence for both professors and students to go directly from a post mortem to the maternity ward. Nobody thought that infection could be carried in this manner. Some thinking physicians like Semmelweiss had already called attention to the possibility of transmitting infection in this manner, but their views were scorned.

It was at such a time that the work of Pasteur and Lister was published. Those who study medicine to-day

should not be ignorant of this portion of the history of modern medicine. The world at large has only a vague idea of the importance of their work which has been so revolutionary in its influence toward aiding mankind.

Louis Pasteur was born at Dole in France in 1822. He had an excellent literary and scientific education and began the study of chemistry in Paris under Dumas. The character of the youth is shown by his reply to the provincial uneasiness of his parents as to the temptations of the Latin quarter, "When one wishes to keep straight one can do so in this place as well as in any other. It is those who have no strength of will who succumb." Like Lister, Pasteur had a good foundation of preliminary scientific work. In this connection let me digress for a moment to urge this fact upon you, that a careful, thorough knowledge of the so-called laboratory subjects of our curriculum will prove as in the case of Pasteur and Lister to be of inestimable value in your future work, whatever branch of medicine you take up.

Pasteur's studies on fermentation and spontaneous generation were the fundamental part of his work. Lister, as we shall see, applied them to surgical work. Pasteur was the first to show that fermentation was the result of organisms and that the spontaneous origin of life is impossible.

He showed that boiling or filtration sufficed to kill organisms. Pasteur also demonstrated that the specific organisms were introduced into liquids or into the human body from without from the atmosphere or from unpurified surroundings. He said to Napoleon III, "All my ambition is to arrive at the knowledge of the causes of putrid and contagious diseases."

His greatest works were the discovery of the organisms which caused the disease of the silkworms of France, and the treatment of hydrophobia by a substance called a viries by Pasteur, prepared from the spinal cord of a rabid dog. He saved the silk industry of France with its annual value of millions of dollars and rendered services of incalculable value to the vineyards of France by his studies on alcoholic

fermentation. "Nothing," he said, "is more agreeable to a man of science than to increase the number of discoveries. His cup of joy is full, however, when the result of his observations is put to practical use." Fortunately for suffering mankind another great mind, Joseph Lister, saw the significance of Pasteur's researches and applied them to surgical work. Like Pasteur, he has a great capacity for work combined with zeal for science, honesty of purpose and self sacrifice. Both men were daily examples to all around them by their industry, faith and kindness.

Lister always spoke of Pasteur as his master. In a letter to Pasteur, written in 1874, Lister says, "Allow me to take this opportunity to thank you for having by your brilliant researches demonstrated to me the germ theory of putrefaction and thus furnished me with the principle upon which alone the antiseptic system can be carried out.

Joseph Lister was born at Upton, Essex, in 1827. Like Pasteur, his preliminary scientific training had been a very thorough one. When he was appointed as a surgeon at the Glasgow Hospital in 1865 he found the condition of affairs as I have described them previously. Hospital gangrene, erysipelas, tetanus, pyemia and suppuration of wounds were distressingly prevalent. The grief and mental worry in regard to the fate of every patient who had been operated upon produced in Lister a sense of discontent with the existing conditions. The newly published researches of Pasteur that minute organisms were the cause of fermentation and putrefaction came to his notice. He recognized at once the influence that these observations of Pasteur must have on the wound diseases which were so discouraging to every surgeon.

Lister's paper upon the "Treatment of Compound Fractures," published in 1867 is the first one in which the antiseptic treatment of wounds is referred to. It can truly be called an epoch making one. It laid the foundation of our modern surgery and from it has been gradually developed what is now called the aseptic method. The material which Lister was led to try was carbolic acid, a substance little

known in the country at that time. He had been much struck with an account given of the effect of the mixture of a small amount of this acid with the sewage of the town of Carlisle, with which certain lands were irrigated. Lister determined to try its power in preventing putrefaction in compound fractures. His results was most astonishing, and instead of every case of such an injury being considered a hopeless one, certain to end fatally in the majority of cases, the course was the same as if there had been no wound in the skin.

At a later period he introduced the use of the absorbable ligature of catgut instead of silk which had been permitted to remain in the wound until it sloughed out. Sir Hector Cameron says, "that it is hardly possible to realize the changes which Lister accomplished in the treatment of wounds." They healed without any disturbances and secondary hemorrhage was not feared. Operations were undertaken which a surgeon would not have thought of doing before. Lister believed that the contamination of wounds was due to the air as well as to the hands, instruments and dressings. Later on he gave up the idea of purifying the air by the use of a carbolic spray and advocated a thorough cleansing of the field of operation, of the instruments, the hands of the operator and his assistants and of the dressings. These latter precautions so revolutionary at the time when they were first introduced some 33 years ago, have survived in principle and have formed the foundation of the surgery of today.

The most important object lesson which Lister has taught us is that everything which comes in contact with a fresh or bleeding tissue may carry infectious material, i. e., germs, unless it has been thoroughly freed of them by some method of sterilization. The exact details of these you will learn during your course. Suffice it to say that these methods have been greatly simplified since the time of Lister.

Lister still lives to see the discoveries of his genius appreciated and utilized throughout the world. As the late Professor von Mikulicz has truly said, "the whole develop-

ment of surgery in the last 30 years is one long hymn in honor of Joseph Lister. No page of the history of surgery can exist without reference to the inventor of the present method of the treatment of wounds." What is now accepted as a thoroughly tested theory met with the greatest possible opposition when first presented.

During the celebration of the seventieth birthday of Louis Pasteur in 1889, the Minister of Public Instruction in France arose and addressed Pasteur as follows; "Who can say how much human life owes to you and how much more it will owe in the future. The day will come when another Lucretius will sing in the new poem of nature, the immortal Master whose genius engendered such benefits. You have raised the veil which for centuries covered the infectious diseases. You have discovered and demonstrated their microbial nature."

To Lister, we can say, "your life has not been spent in vain. You have by your great genius applied the researches of Pasteur to the saving of human life. Without your Master-work surgery would still be in its infancy. The present generation already appreciates the great benefits you have conferred upon them and future ones will continue to sing the praises of Pasteur and Lister and offer thanks for your noble work."

Ladies and Gentlemen:—Let the lives of these two men teach you before beginning or continuing your medical studies as the case may be these things: In the first place your preliminary education and scientific foundation should be as thorough as possible in order to thoroughly appreciate and assimilate that which is taught you here.

Secondly, work, work, work, is the keynote of success in this as much as in other modern pursuits.

Lastly, emulate the examples of both of these men by being thoroughly honest and self-sacrificing in everything you do; having accomplished this, let those immortal lines of Longfellow inspire you with everlasting zeal and enthusiasm:

"The lives of great men all remind us
We can make our lives sublime
And dying leave behind us
Footprints in the sands of time."

THE DEVELOPMENT OF THE GYNECOLOGIST.

By CHANNING W. BARRETT, M. D.

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The subject of this paper implies the desirability of special workers in a given field. Inasmuch as there has been from time to time a question raised as to this desirability, a few words of comment upon this phase would not be out of place. Too often the statement that gynecology has no field outside of general surgery is prompted by the economic interest of some grasping surgeon.

There is evidence that gynecology was practiced in Egypt centuries before the Christian Era. The writings of the Hindoo, the Greek and the Roman show much knowledge of the anatomy and physiology of the organs of generation in women, and evidence some knowledge of the diseases and their treatment. Much was done to relieve suffering women during the period following the dark ages, but gynecology was not practiced as a specialty until the last century. The courage of McDowell and the work of his followers demonstrated that the ovarian tumor could be removed. The genius of J. Marion Sims took hold of this field when it was a barren and neglected fallow, browsed here and there by the general practitioner, and left it a highly cultivated specialty. Pasteur in his laboratory, and Lister in his operating room made possible and safe things not dreamed of before, and the gynecologist extended his work to combat intra-abdominal disease. This specialty became of paramount importance. A vast amount of work was to be done, and many workers were attracted to this interesting and somewhat lucrative field. The accurately firing guns of the specialist were trained upon diseases of the pelvis, and its difficulties were overcome. Great credit is due to these workers for the light they have thrown upon dis-

ease of these special organs. When any work is to be done in this world, it is to be done by specializing. Low forms of life begin with one cell; that divides into two cells, each of which is a separate individual, each doing the same work, no specialization. Higher orders of life start with one cell, but as this multiplies, specialization is observed, some cells taking up one work, still others another, etc. The savage does his own hunting, his own fishing, makes his own implements, makes his own clothes, etc. But as soon as progress is made, specialization becomes necessary; one man the baker, one the shoemaker, one the carpenter and one the blacksmith. In the olden day the physician gathered his own herbs and prepared them, did his own nursing, operating and indulged in farming. We cannot but admire his versatility, but congratulate ourselves that progress has been made. I think that no one depreciates the work that has been done in the field of gynecology, nor denies that this vast amount of work was due to the specialist, but the general surgeon of the last ten or fifteen years has begun to argue that the creative work is over, the discoveries made, the hard work done and that henceforth he is able to take care of the work.

The fact is that gynecology has a field not covered by its surgical side. Internal medicine, surgery and obstetrics stand out distinct from each other. Gynecology overlaps each of them. The pelvic organs call for special consideration other than that given them by either of these three specialists. The gynecologist has been called the "surgeon with the obstetrical eye;" in other words, he is essentially a surgeon, but while he seeks the health of the woman, he has in mind the preservation of the function of the pelvic organs.

The statement that the creative work of gynecology was over ten years ago was not true, and it would not be true of this day. That enough work has been done to call forth such a statement is the very best argument in favor of specialism. If a few decades of specialism so nearly perfects the work in a given region occupied by special organs.

would it not be well for others to specialize in other regions? The lines of specialism may not be very rigidly drawn. There may always be some overlapping. The general practitioner may always do some amateur surgery. Many general surgeons may do some amateur gynecology, and some may do good gynecology. Some gynecologists may do amateur surgery, and some may do good abdominal surgery; but the specialist will always exist. Unfortunately, this on the one hand, is the "every-man-his-own-surgeon" age, but fortunately, on the other, surgeons are finding the field too large to be covered by any one man. One makes his reputation upon stomach and gall bladder surgery; another upon fractures; another upon kidney surgery, another upon herniotomy and if they dig deep in their chosen field and add to it, they are specialists in this line, even though they do some less scientific work in other fields. If we look at the great numbers doing operative work to-day, we might say that surgery does not exist as a specialty, but when we see the great work and the good work done by those who concentrate, we know that there must be specialization.

While many people may give their friends into the hands of the man who will dabble in, but who will not prepare for, surgery or any special line thereof, there are many others that find a trained man none too good. The great German professor, who had spent his working years studying a fly, regretted, when he came to die, that he had not specialized on the hind leg. His life work had been spoiled by lack of concentration.

By reason of the importance of the pelvic organs, by reason of the frequency of disease in them, by reason of the skill and judgement necessary in diagnosis and treatment and in the execution of the operative work, gynecology, like other fields, requires special workers. It is to be regretted that material in large charity hospitals in the West, of which Cook County Hospital is a striking example, has been taken from the hands of specialists, who could make scientific use of it, and is put in the hands of the general surgeon who makes very little use of it. Every such step

taken is an admission that we are willing in the West to have medical education and medical science take a step backward. The time has been ripe for the center of medical education to move westward, but every such grasping act publishes the fact that we are not ready to wear the mantle.

With the thought in view that progress is made by specializing, let us turn our attention to the consideration of the acquisition of knowledge and skill in this field of gynecology. Every medical student is to be something of a gynecologist. They have come from the farms, schools, shops, stores and offices. If they have gained a good liberal preliminary education, they have much to be on the credit side of their account. If they have learned habits of study, self control, thrift, economy and self-sacrifice, and the true standard of what constitutes success, they have the qualifications for a good beginning in the study of medicine. False standards of success wreck the career of many an earnest worker. The amassing of a great fortune does not constitute success.

A man's life may be successful without the accumulation of thousands, and may be a failure with it. Money is good only so far as it is used for accomplishing good. More is not necessary. A man's life, to be successful, must be raised above the question of daily bread. He must have an earning capacity equal to his necessary expenses, that his mind may be free for other work. More cannot be figured in the scale of success. We are apt to figure success by the answer to the question, How much of the world's profit is he appropriating to himself, whether by fair or foul means? We should measure it by the answer to the question, How much of the world's work is he accomplishing? How much human suffering is he relieving? How many invalids is he preparing to do some of the world's work? How much sunshine is he taking into the homes he enters? How much better are the lives he meets?

Many students enter college thinking of four years of toil and privation to get credits enough and knowledge enough to allow them to enter upon a life's work four years

later. Many have come for four years of fun and frolic, hoping that Providence and a "pony" will give them a degree which will fasten upon them dignity enough to entitle them to a life of ease. Some have come thinking "Now my life work begins. Now I am at the work I long to do." And these are the ones which are apt to succeed in the largest degree.

Now is none too soon to consider one's self of the profession and to act professionally. Now is none too soon to begin to develop tact, to want to do right, to want to please and to make friends. Now is none too soon to begin to enjoy one's life work, to take pleasure in overcoming difficulties, to begin to form scientific habits of thinking and to gain skill in handling instruments. These men not only are living their life work now, but they come out of school ready for responsible positions in the community. The men who think their life work begins only when they have finished school are apt to have to wait some time longer to convince people that they are in earnest. In the study of no other branch is dignified professional conduct so necessary. Boisterous hilarity and thoughtless light heartedness do not favor the development of a gynecological clinic.

Having in mind then that success does not mean money getting, and that therefore the elements of successful work are ever within the reach of the student, not four years distant, and that it is desirable for a student at once to consider himself of the profession and that dignified conduct is necessary, we have still to meet some real difficulties in the study of gynecology. No matter what the preliminary qualifications of the student may be, the true foundation to build upon is to be found in the thorough knowledge of biology, embryology, histology and anatomy. Disease is a morbid condition in cellular activity, and we now have means of acquainting ourselves with what the cells are doing, and the scientific mind interests itself with this. The great general is interested not so much in the pile of dirt that is thrown up in front of his army as he is with what is behind those earth-works.

Gross pathology is the earth-work. The cells are the men behind the works.

Some of the hindrances which lie in the way are those met with in all branches of medical study. Some are more apparent in the study of gynecology, and some are peculiar to this branch. In the acquisition of knowledge, these difficulties may best be overcome if early understood. In the acquisition of skill necessary to make successful application of this knowledge, there are helps which should be early appreciated.

First, the student comes to the study of these special organs with less accurate knowledge than any other.

Second, he has had little opportunity to develop that sense of touch so necessary to the acquirements of gynecological knowledge.

Third, opportunities for anatomical study are rare.

Fourth, text books have been misleading, inaccurate and incomplete in presenting the female sexual anatomy.

Fifth, clinical material is more difficult to obtain.

Sixth, close relationship of student and patient are more to be desired, yet more difficult to obtain than in other branches.

First, the student has had opportunities to observe the eye, has seen the heart, liver and lungs of animals, and has felt free to make observations and converse upon their anatomy and physiology. The organs of most interest in gynecology are sexual organs, and as the medical student is a sexual person before he is a medical student, he has felt a shyness about the question under consideration that has limited his knowledge. True, there are always some with "rakish" tendencies who proudly affirm a greater knowledge of things sexual, but the rule is the same, and heaven help the profession and the public if these exceptions find their way into medicine.

Second, Students have come from all locations; they have gained some knowledge, mostly by sight and hearing. The hand may even be trained to do some things well. But the delicate sense of touch, so necessary to the gaining of

gynecological knowledge, has remained undeveloped. The sense of touch has been little used as a means of gaining knowledge. If one wishes to see just how little the sense of touch is developed, let him get out of bed in the darkness—before he has practiced medicine—and undertake to dress himself. Hundreds, yes thousands of examinations are necessary to develop the sense of touch. Yet the average student makes perhaps no more than six examinations—hardly enough to overcome the peculiar cerebral hyperaemia which accompanies his first effort in this line.

Third. Accurate ideas of the anatomy of organs are gained by observations upon the cadaver, upon the living subject and upon animals. Female cadavers are comparatively scarce, as may be determined in almost any dissecting room. The anatomy of the pelvic floor is not so well marked as in the male and is oftentimes distorted or obliterated by traumatisms. An aural surgeon and teacher informs me that he requires each student to present a drawing representing the drum of ten other students; obviously such study upon the living is denied the student in our branch. Slaughter houses sell eyes by the quart to medical schools for eye work, and they are almost as good as human eyes and less expensive, but on account of their dissimilar anatomy, no such comparative value is to be placed upon the sexual organs, although the study of comparative anatomy is not to be depreciated.

Fourth. On account of the difficulties just mentioned, text books have been silent or misleading upon some points of female anatomy. Good descriptions of the muscles and fascia of the pelvic floor in the female have been difficult if not impossible to find. Positions and relations of the internal genital organs have been misrepresented.

Fifth. Clinical material is gathered with ease for instruction in eye, ear, nose and throat diseases or general medicine and surgery. An interesting heart may be examined by sections; a pathological eye may be seen by the whole class, etc. Gynecological cases come to a clinic with great reserve. No pretext of a "very interesting case" will

induce a patient to go from private practice to a gynecological clinic. My observation leads me to state that the poor people submit to a private examination with more embarrassment than the well to do. If, then, this is the feeling toward a private examination, what must be the feeling upon being ushered into a clinic for an examination? Two things the student must remember: first, every clinical patient is not a prostitute; second, every prostitute is not devoid of modesty.

Sixth. Given plenty of clinical material, it is not possible for the student to use it as in other branches. As stated before, limitations are put upon the student himself. Then, too, patients will not endure being practiced upon. Two students at most may examine one case. Inspection shows little or nothing. What the instructor says he finds is out of sight. Gynecological pathology and surgery in the living cannot be seen by the class as well as other pathology and surgery. Therefore more intimate relations of patient and student are desirable, but for reasons mentioned the relation is more distant than in other branches. Sight tells little, touch is denied to a great degree, and home study of the patient for extended observation is well nigh impossible. The results are that students come out of a medical college with less accurate knowledge of gynecological disease than they have of almost any other region.

Having in mind these drawbacks is the first step toward overcoming them. The student should thoroughly familiarize himself with normal and morbid histology. Every opportunity to examine a gross or microscopical specimen should be grasped eagerly. Material for microscopical study is within the reach of every student, or should be. The student should have the opportunity of seeing the mounted pelvic bones. Every organ should be studied in its relation to other organs. A false uterus is easily suspended in the pelvis by ligaments, which shows the position of the uterus and the ligaments which hold it. This is superior to anything the writer has seen for teaching the mechanism of displacement. The scarcity of anatomical

material makes it incumbent upon medical schools to provide a preserved dissected specimen of the female pelvis; which may be used for teaching purposes and may be observed and studied frequently by the students. Charts and models may be used to good advantage. The uterus and operations upon it may be easily represented in modeler's clay or by means of potato, turnip or parsnip. Nothing is superior to a soft hat for illustrating operations upon the perineum. The crown is the vagina, the inner band is the mucus membrane, which may be carried forward to represent the Tait flap. He would be an unenthusiastic teacher indeed who would not willingly spoil a hat to fix a point. Only a novice would depreciate the use of these simple means of illustration. Preserved and fresh specimens are invaluable and should be presented at every opportunity.

The student should grasp every opportunity to make an examination or witness an operation at close range. He should multiply these opportunities by dignified scholarly bearing, by genuine interestedness and tactful helpfulness. He should, as a student, train the hand to use instruments, needles, sutures, etc. Much of the time consumed in the early work of an operator is due to his inability to manipulate instruments quickly, place needles in tissues accurately and to tie knots deftly and securely. Yet upon these simple things the patient's life and the operator's reputation depends. One does not need — should not have a living patient upon whom to begin these things. Thousands of knots should be tied by every medical student, before a living being is operated upon. One does not need a human being, or even a dog, to practice with needle and thread and forceps. Sew together the two edges of a towel, and re-sew and sew a hundred times, until neatness and deftness are attained, both with and without needle forceps. Then operate upon a rabbit, a dead rabbit. Don't yet impose upon a living animal. Later a live dog if you will. Don't get to thinking that only a living human being is worthy of your valuable time and your untrained hand. You cannot do too many of these perhaps uninteresting things. The modern

soldier does not wait for a living target before he points his gun. If you doubt the wisdom of this, ask any one skilled in surgical technique.

And after all, you come out of school an embryo gynecologist. If you would become skilled, get into a hospital, where you learn accurate observation, different ways of doing things, and general surgical and medical technique.

When you are through with this important position, start again, as some skilled man's assistant, and get things drilled in you. Get into a dispensary, where you make dozens of examinations every month, and thereby train your hand. Get into private practice and see if your knowledge has a marketable value and thereby learn tact. Visit the clinics of other schools, hospitals, etc. Years of this, and one, if he wishes, may be a gynecologist, but one is a man before he is a doctor of medicine. He is a doctor of medicine before he is a gynecologist, and he should ever count the first above the second and the second above the third.

FOOT BALL.

At the recent meeting of the Athletic Association of P. & S the Foot Ball Team was formed, and officers elected as follows: R. C. McCormick, '08, manager; H. Bunde, '07, assistant manager; F. J. Conroy, '08, captain.

The meeting was well attended and great enthusiasm was shown, and with the wealth of good material from which the team can be made up a most successful season is expected.

Mr. Griffin, '08, presided at the meeting.

DREAD PNEUMONIA.

Symptoms—Headache, tired feeling, congested lungs, fever.

Cause—Wet feet, cold.

Cure—A telephone—then stay indoors on a wet day. One doctor bill would pay your telephone rental for months, Chicago Telephone Company.

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COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT

UNIVERSITY OF ILLINOIS.

CHICAGO.

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LIBRARY NOTES.

A much needed addition to the Quine Library is a fine clock which was a parting gift of the class of 1906. In nearly all the colleges it is the custom of the members of the graduating class to leave a gift with the institution which confers their degree upon them. This memento is one of the strong links that binds each Alumnus to his Alma Mater and we congratulate the class of 1906 in establishing this custom at the P. & S. The sincere thanks of every student who uses the Quine Library goes out to the class of

1906 for this most useful gift which now occupies a conspicuous place in the general reading room.

A new picture which has recently been hung in the Quine Library is that of the members of the Alpha Omega Alpha society. Membership in this society is gained by scholarship and it is most fitting that this picture should hang in the library where everyone elected to this society spends so many hours in the study which brings him this honor.

The following new books have been purchased for the Quine Library. For two weeks they will be kept together on a table in the reading room and the faculty and students are invited to come to the library and look them over.

Gould—Operative Surgery.

Pierson—Modern Surgical Technique.

Emerson—Clinical Diagnosis.

Wood—Microscopical Chemical Diagnosis.

Forcheimer—Prophylaxis and Treatment of Intestinal Diseases.

Cabot—Diseases of Metabolism.

Binnie—Operative Surgery.

Wharton—Minor Operative Surgery.

Crile—Blood Pressure in Surgery.

Fowler—Surgery. Two volumes.

Shurly—Nose and Throat,

Kiliani—Surgical Diagnosis.

National Formulary.

Ashton—Gynecology.

Hirst—Gynecology.

Jacobi—Portfolio of Dermochromes.

Robb—Aseptic Surgery.

Sobotta and McMurrich—Anatomy.

Morris—Anatomy.

Köhler—Medicinische Pflanzen.

Sollman—Pharmacology.

Taylor—The Law in its Relation to the Physician.

Cushing—Pharmacology.

Bovee—Gynecology.
Broadbent—Heart Disease.
Metchnikoff—Immunity.
Huber—Consumption and Civilization.
Stengel—Pathology.
Kyle—Ear, Nose and Throat.
Oppenheimer—Surgery of the Middle Ear.
Cotton—Medical Diseases of Infancy.
Moynihan—Abdominal Operations.
Cunningham—Anatomy.

The following gifts have been presented to the Quine Library and grateful acknowledgement is hereby extended to the donors for their interest in the library. Dr. Newman, a large collection of journals and reprints. By this gift we were enabled to complete many of our volumes and sets of periodicals. Dr. Lobdell also presented a large collection of journals which we found useful.

SENIOR NOTES

“Now act decent, you’re a Senior”—Wochos.

Dean Quine pressed the button and the machinery of 1906-1907 started off at a moderate pace. Some new oil has been received for use during the present year.

The opening address was given by Dr. D. N. Eisen drath, who in an interesting manner presented the history of surgery and asepsis. The address was punctuated by an occasional “story,” told in the doctor’s characteristic way.

Miss Ball says she will have to be good for a short time. Her mother is here.

The cutest things we have seen this year are the whis kers disfiguring the faces of P. S. Wilson and O. A. Olson.

Maurice Mesirow decided that there was no use trying to get a medical education alone, so has secured the help of a lady friend, now known as Mrs. Mesirow.

Hope and determination seem to be implanted upon the

countenances of the Senior class. We have rounded the curve, come to the last quarter and will soon pass under the wire. Let us hope it will be a neck to neck race and that none will be flagged in coming down the home stretch.

Among about forty new members to our class, are Mr. and Mrs. Conner of San Francisco, Cal. They had just completed their Junior year in that city when they were driven from it by the earthquake. Having spent her life in California, Mrs. Conner is not accustomed to snow, she wondered what it looked like and if one would sink into it. In order that her curiosity may be satisfied, we have ordered a special snowstorm to be delivered not later than June 7, 1907.

Those who saw Dr. Ferguson's operation and transplantation of skin, have no doubt about his being a successful grafter.

F. L. Nathenson has had the misfortune to have talipes varus for which an operation was performed. The foot is recovering and Mr. Nathanson is attending classes, aided by a pair of crutches.

At this time, the class numbers about 150, with 40 new students. Some of our classmen of last year have not yet returned, one of whom being G. C. Franklin, who will not attend school this year on account of failing health.

Dr. Ochsner is a great believer in mental concentration in surgery. He has no use for the fellow who "gawks about."

When is a class rush not a class rush? When superintendent Brown takes a part in it.

The busiest man on the West Side is B. G. Bissel. Besides looking after the pathology laboratory and assisting in the work in the "pit" he has to be foster papa to several babies at the maternity ward.

JUNIOR NOTES.

Charlie Skwor has recovered from his leukemia by strict attention to the affairs on his farm. This is a case of heroic treatment overcoming a dreadful disease.

Edward Arnold has just passed through an attack of typhoid. He will be prepared to answer questions on similar cases.

George Noger is convalescent from pneumonia due to strenuous base ball playing. Hereafter he will be authority on pnemonia.

The missing members are as follows: Spencer, Vance, Heron, Vandermade, Goudreau, Wilson, Burnett, Nathanson and Howard.

One of our new Juniors made a brilliant recitations in surgery, but the professor thought he was playing ball.

We have been informed that Frank Cavanor has married. The good wishes of the Junior class are extended to him.

Gordon has spent the summer at Dunning. Not an inmate. Just one of the attendants.

George Tucker and Norman Copeland are assistants in the operative surgery clinics held in Room 305. Both are well able to handle their patients.

Rosensweig is not sure if diabetis mellitus affects Peyer's patches or the islands of Langerhans.

N. D. Lee has a new handsome checkered plaid suit. He acquired it from Edenheimer, Stein & Co., Chicago's foremost French tailors.

Before getting your new Fall, see Harvey Doane's tri-agonal. It is a peach.

John Eckman has taken some hospital work this summer.

Now that the Sophomores have beaten the Freshies

and we beat the Sophs, we are champions according to Queensbury rules. Now for next year.

A musical club has been proposed. The Juniors will contribute their share to make it a howling success.

Lescher and Phifer have gone to the Jefferson Medical College of Philadelphia.

The Junior class will be larger than it was last year. One hundred and thirteen have matriculated. We recruited from the Harvey-Jenner College, Milwaukee Medical College and several others.

The football squad has been organized with Frank Conroy as the principal thing in it. We expect them to uphold the school standing and make the P. & S. College famous.

Our group of ladies has been enlarged by the addition of Miss Parks and Mrs. Bentele.

Donaldson is here again, as a Sophomore this time.

FRESHMAN NOTES.

Happy greetings to our upper class men. We are sorry and regret very much that we were not heard from in the last issue of the PLEXUS, but we think our reasons justifiable. On our arrival at the college we loitered along the halls, either alone or in groups of three or four and tried to dissect the conspicuous hieroglyphics that appeared on the doors. The one which troubled us most was PLEXUS. Hinkley decided it meant "the place where the Freshmen get it," and drew his conclusion from the fact that he had heard the term, "Solar Plexus" used in pugilistic literature. This conclusion was exploded when we met a bunch of Sophs on the south campus last Tuesday morning. We now know where we are and will be heard from.

Bright and early rose the sun on the morning of October 8th. The air was cold and snappy and a bunch of Sophomores had gathered around the pole at whose summit their colors were flying in glorious splendor. Up in 305, an irritated class of Freshmen were discussing socialism, when

Supt. Brown made his appearance on the scene and said, "Now gentlemen, you must not, because we won't stand for it." The Sophomores who were becoming restless, began a march around the pole, causing friction thereby, which produced an odor which Leary said was H_2S , but Moran declared was rotten eggs: They were just in the act of calling Dr. Wentz in consultation when one of the members noticed some indications of life coming around the south-east corner of the building. All doubts were then cleared they knew the incubator had burst and the embryonic medics were upon them. For 45 minutes they were charged upon time and again but bravely they stood their ground and won the respect of their antagonists. Thanks to them for their courtesy and gentleness, and we hope the same spirit shall ever exist.

Once we were welded together by the Sophs it was thought necessary to find the head. The next day an election was held and the following is the result:

President, W. J. Siegler, La Salle, Ill.

Vice President, L. J. Ballard, Chicago.

Secretary, Miss Marion Farber, Beatrice, Neb.

Editor, Wm. H. Bradley, White Heath, Ill.

In entering upon this work, which the class has asked that I should do, I wish to thank the class, one and all, for the honor you have bestowed upon me by electing me as your class editor, for certainly I feel that it is an honor to be a class officer of such a large, dignified and intelligent class as 1910. It shall be my aim and desire to show no partiality, and certainly hope to offend no member. If at any time I shall have seemed unkind or unjust, why simply look upon it as a joke, as it was intended only as such, remembering that "a little nonsense now and then is relished by the best of men." On the other hand I ask and hope I may receive the hearty co-operation of the entire membership to assist me in the work, as no one man can know all the happenings of a class of 95 or 100. Literary contributions in the way of personals, locals or jokes shall be received gladly at all times and at any place.

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 Campbell, Wm. Bernard, Menominee Falls, Wis.
 Carroll, Henry Colistus 4048 Indiana Ave., Chicago.
 Chambers, Wm. Henry, Hill City, S. Dak.
 Chloupek, Elton Arthur, Manitowoc, Wis.
 Coen, Charles Morgan, Bellflower.
 Crosby, Leonard Green, Milton, Wis.
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 Dugan, Jas. Henry, Westminster, Md.
 Edwards, John Milton, Mankato, Minn.
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 Feingold, Leon, St. Elizabeth Hospital, Chicago.
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 Frank, Ira, 17 Lincoln Ave., Chicago.

Freas, Frank, 1524 Wrightwood Ave., Chicago.
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Potter, Jesse Youngs, New London, Wis.
Ramsey, Frank Paine, Rapid City, Mich.
Raw, Elmer Joseph, Marcus, Ia.
Reasoner, Matthew Aaron, Morrisonville.
Reich, Wm. Frederick, Milwaukee, Wis.
Rich, Riley Gilbert, David City, Neb.
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Sanderson, Philip G., Detroit, Mich.
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Schmitt, Gustav, Milwaukee, Wis.
Schoenberg, Albert John, 100 State St., Chicago.
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Slightam, Clarence Howard, Madison, Wis.
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(To be continued.)

OBITUARY.

Dr. W. R. Cheever, '96, Kenosha, Wis., died at his home in Kenosha as the result of a most deplorable accident which nearly resulted in the death of Mrs. Cheever as well. Through some unexplained cause the gas was left turned on in the water heater resulting in the asphyxiation of the doctor and the unconsciousness of his wife who was revived after several hours. The doctor enjoyed a very extensive practice in Kenosha, and the profession has lost a most valuable member.

The members of the class of 1896 will deeply regret to hear of this tragic death, and extend to Mrs. Cheever their heartfelt sympathy.

DR. FANTUS TO THE CLASS OF '08.

Dr. Fantus desires to thank last year's Sophomore class for the telegram expressing their good wishes which he recieved on board the steamer Vaderland just before sailing. He enjoyed the trip very much, and hopes that each member of the class will have the opportunity of visiting Europe.

DEFIES COLD WEATHER.

What is nicer on a cold winter night than to be able to sit in a cozy home and telephone to your friends. Winter is coming. Order the telephone at once and be prepared. A few cents per day. Chicago Telephone Company.

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BATAVIA, ILL., OCT. 20th, 1906.

DENTAL ITEMS.

TO AVOID MISFITS OF VULCANITE DENTURES.

Dr. J. H. Prothero, of Chicago, offers the following suggestion to enable one to avoid distortion of the mold while closing the flask and during vulcanization. 1. Use a good quality of plaster for both the model and investment. 2. Manipulate it so as to secure the greatest density with the least expansion. 3. Cut waste gates large enough to receive the excess of rubber and connect them with the peripheral margin of the matrix. 4. Avoid the introduction of a large excess of rubber, using interposed muslin and separating the case to determine the correct quantity. 5. Heat the case gradually and uniformly, preferably by means of dry heat. 6. Apply pressure slowly, allowing ample time for the rubber to find its way into the waste gates, reheating the case if necessary. 7. Place the flask above the water so the vulcanization may occur in the steam and not under water and prevent softening of the plaster.

FOR SENSITIVE DENTINE.

In shallow cavities I have good results from applying a few crystals of menthol, dissolving it in the cavity with a

drop or two of absolute alcohol and then throwing a small steady stream of compressed air into the cavity until it is dry.

SUBDUING PLATINUM MATRIX.

Platinum should be annealed at least three times. First before using; second, after first burnishing; third, preparatory to final treatment, which should consist of only packing spunk in the cavity. If any burnishing with instruments is attempted just prior to the final removal of the matrix it will be found that it will spring. This is especially true when dealing with compound cavities.

SELF-TREATMENT.

The country dentist may often save himself and his patient much trouble by ordering a gross of one drachm vials with corks. By giving the patient medicine and letting him make treatment himself at regular intervals or when pain prompts, much suffering can be avoided. Beeswax is a convenient sealing material in such a case. Of course, the dentist must give the later treatment himself.

QUICKLY MADE GOLD INLAY

The following method of making gold inlay in the occlusal surface of a molar was demonstrated by Dr. W. A. Fillman. After adjusting a good matrix he packed it full of moss fiber gold and removing the mass in the matrix flowed solder into the gold. He then replaced his work in the cavity readapted to the margins with burnishers and added more solder to proper contour. With care an investment is unnecessary.

SOLUTION FOR ETCHING POTCELAIN INLAYS.

Porcelain inlay workers usually undercut their inlays with a diamond disk, but for those who prefer to etch the back of the fillings with hydrofluoric acid the solution of hydrofluoric acid called "white acid" is valuable. Hydrofluoric acid makes a smooth etch. White acid makes a

frosted etch. It can be bought under the name of white acid, but is much more efficient if freshly prepared and kept free from the air, as it has the property of absorbing moisture which destroys its good qualities. It is prepared as follows: Make a saturated solution of ammonium carbonate in hydrofluoric acid using a lead dish; evaporate to one-half its bulk. Add hydrofluoric acid up to original bulk and evaporate again to one-half its bulk. This solution should be kept in a gutta percha bottle. It will give a surface to the filling to which the cement will tightly adhere.

VAST POSSIBILITIES OF NEVADA FIELDS.

The great mining prosperity of the past two years has demonstrated many things for Nevada. There has been a notable increase in the production of gold, a great revival in silver mining, values have been proved still greater with deep mining, thus removing the mistaken idea that Nevada mines "do not go down."

Nonopah today is producing millions in gold and silver and a city of several thousand inhabitants has sprung up as if by magic where a few years ago there was but a desert waste.

In this connection we refer to the Pittsburg-Manhattan Mining Company, whose properties consist of five claims located in the famous Manhattan mining district, Nye County, Nevada.

Four hundred thousand shares have been set aside as a treasury fund for the sole use and benefit of the company in the development and operation of its properties and for such other uses as are needed by the company. You can obtain these shares now at 10 cents per share, cash or installments. See advertisement on another page, or address Mackey, Monroe & Company, Fiscal Agents, P. O. Box 792, Tonopah, Nevada.

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THE CLASSES.

The forty-seventh session of the School of Pharmacy began Tuesday, September 25th with a good attendance. There are 110 Juniors, 58 Seniors and 1 special student enrolled, a total of 169. As usual, Chicago furnishes nearly one half of these and the State, outside of Chicago, about a third. Among other states represented are Wisconsin, Michigan, Indiana, Minnesota, Iowa, Kansas, Nebraska, Montana, Colorado, Utah, Nevada, Kentucky, Mississippi, California, Oregon and Virginia.

ALUMNI NOTES.

Hal Neuton Calhoun, '03, and Miss June Jennette were married October 16th at Cairo, Ill. The young couple will reside in Cairo, where Mr. Calhoun conducts a successful pharmacy.

Axel S. Holmsted, '98, visited the school recently. Mr. Holmsted is manager of the Brown Pharmacy, accounted the finest drug store in Sioux Falls, S. Dak.

Dr. Mark H. Watters, '98, of the U. S. Marine and Pub-

lic Health Service has returned from San Francisco to the Marine Hospital at Chicago.

Professor Hallberg discussed "The Practical Value of the National Formulary to the Retail Druggist," at the October meeting of the Chicago Branch of the American Pharmaceutical Association. President Eliel was the guest of honor on this occasion.

Don G. Machenheimer, '06, has purchased the drug store of Kappus Brothers, Chicago, where he has been employed for the past two years.

L. A. Dickhut, '05, has returned to Quincy, and to his former employers, Heidbreder, Hagemann & Co. He will be a partner in the new firm.

Frank E. Bucklin and David L. Holland of the class of '06, have recently joined the ranks of the benedicts. Mr. Bucklin is manager of Bellack Brothers' prosperous Lincoln Avenue Pharmacy. Mr. Holland is a partner with his brother in Holland's Pharmacy on 55th Street, Hyde Park.

T. I. Scheips, '05, has presented the museum of the school with several interesting specimens, among them an excellent sample of "Fungus Ignarius" and "Boletus cervinus." both fungus growths whose employment in medicine has become obsolete.

Among the successful candidates for the registered pharmacist's certificate at the September examination of the State Board of Pharmacy were F. E. Bucklin, D. L. Holland, Louis G. Jacobs, Rolf Reite, Geo. W. Seifried, Otto Shatzkis, L. L. Taylor and J. P. Wiltgen of the class of 1906.

THE NAMING OF CARBON COMPOUNDS.*

By W. A. PUCKNER.

oxime—Compounds containing the group =N-OH , thus $\text{CH}_3\text{.C (N.OH) CH}_3$ is propanoxime (2), $\text{CH}_3\text{CH}_2\text{.CH:N.OH}$ is prapanoxime (1). When obtained from aldehydes, $\text{CH}_3\text{CHO-|NH}_2\text{OH=CH}_3\text{.CH (:N.OH)-|H}_2\text{O}$, they are often called aldoximes, when from ketones $\text{CH}_3\text{CH}_3\text{.CO. CH}_3\text{-|NH}_2\text{OH=CH}_3\text{C (:N.CH). CH}_3\text{-|H}_2\text{O}$, they are called ketoximes.

oxonium—Oxonium compounds are bodies containing tetra-valent basic oxygen, showing some analogy to ammonium salts, whence the name.

oxy—Indicates an oxide, thus Ether U. S., $\text{CH}_3\text{.CH}_2\text{.O.CH}_2\text{.CH}_3$, is ethaneoxy-ethane. Often "oxy" is used to indicate hydroxyl, thus phenol is called oxy benzene, resorcinol or phendiol is called dioxy-benzene, etc.

oyl—The ending "oyl" is given to radicles obtained by abstracting hydroxyl from the carboxyl group of organic acids, thus $\text{CH}_3\text{.COOH=(OH)'-(CH}_3\text{.CO)'}$, ethanoyl; $\text{C}_6\text{H}_5\text{COOH=(OH)'-(C}_6\text{H}_5\text{CO)'}$, benzoyl.

P—An abbreviation for "para", which see.

para—The 1:4 position in benzene derivatives (see note B.c), thus 1,4- dichlorbenzene is also called para-dichlorbenzene.

pent—A prefix indicating five, thus pentane is C_5H_{12} , pentene is C_5H_{10} .

peri—The 1:8 position in di-derivatives of naphthalene (see note J, d).

phen—The prefix is commonly used to indicate derivation from or relation to phenol, thus penol, phendiol, phen-triol, phenthion, etc. It has been proposed to apply the name "phen" to benzene, C_6H_6 , and to indicate all benzene derivations by this prefix.

Phenetidine—Amino-ethoxy-benzene, $\text{C}_6\text{H}_4(\text{NH}_2)(\text{O.C}_2\text{H}_5)$.

phenetol—Phenol-ethyl-ether, benzene-oxy-ethane or ethoxy-benzene, $\text{C}_6\text{H}_5\text{.O.C}_2\text{H}_5$.

*Continued from page 399.

phenyl—The monovalent radicle (C_6H_5)' derived from phenol, C_6H_5OH .

phenacyl—The monovalent radicle $C_6H_5.CO.CH_2$ —derived from acetophenone.

primary—See note D, b.

prop—The prefix indicates C_3 , thus propane is C_3H_8 propene is C_3H_6 , etc.

py—An abbreviation of pyridine. For its use in naming of quinoline derivatives see note 1.

Quart—An abbreviation of quaternary, which see.

quarternary—Four or fourth, thus quarternary amines are considered derived from ammonium hydroxide by replacement of all four hydrogen atoms, thus H_4NOH yields $(CH_3)_4NOH$.

quinqi—A prefix indicating five.

R—An abbreviation of "ring," thus cyclo-propane, $\overset{CH_2}{\text{^A}}CH_2-CH_2$ is also called. R-propane.

S—An abbreviation for "symmetrical", which see.

secondary—See note D, b.

six—For the use of the number 6 see Note B.

sulf—The same as "Sulph," which see.

sulph—Indicating sulphur, thus sulphone, sulphonic acid, etc,

sulphamide—Compounds derived from sulphonic acids by replacing OH by NH_2 , thus the amide of benzene-sulphonic acid is also called benzene sulphamide.

sulphide—The organic sulphides, also called sulphur ethers, are compounds derived from H_2S by replacement of hydrogen by organic radicles, thus ethyl sulphide is $(C_2H_5)_2S$.

sulphimide—An imide (see) derivative of a sulphonic acid, thus saccharine is the imide of o-sulphobenzoic acid.

sulphinide—Sulphinic acids contain the group— SO_2H . Imide derived from sulphinic acids are sometimes called sulphinide, thus saccharin is official as benzosulphinide.

sulphone—Sulphones are compounds containing the group (SO_2) , thus diethyl-sulphone is $(C_2H_5)_2SO_2$.

sulphonic acid—Compounds containing the group $(\text{SO}_2.\text{OH})'$ derived from sulphuric acid, $\text{OH}.\text{SO}_2.\text{OH}$, by abstraction of $(\text{OH})'$, thus phenol-sulphonic acid is $\text{C}_6\text{H}_4(\text{OH})(\text{SO}_2.\text{OH})$.

sulphonium—Basic compounds of sulphur in which tetravalent sulphur is combined with three alkyl groups and one hydroxyl group, the latter reacting with acids to form salts, thus triethyl-sulphonium-hydroxide, $(\text{C}_2\text{H}_5)_3\text{S}.\text{OH}$.

sym.—An abbreviation for symmetrical.

symmetrical—1, 3, 5, tri-derivatives of benzene compounds are said to be symmetrical, thus 1, 3, 5-trichlorobenzene (see Note B, c.)

syn—A prefix referring to stereoisomerism, meaning “together,” as opposed to anti, which see.

Terp—The prefix usually denotes derivation from or relation to the hydrocarbon contained in turpentine (see Note K.)

tetra—Denotes four, thus tetrachlorethane is $\text{C}_2\text{H}_2\text{Cl}_4$.

thi—Denotes sulphur. See thial, thiol, etc.

thial—Thi—al. Sulphur aldehyde. Aldehydes in which the oxygen of the aldehyde group is replaced by sulphur, thus $\text{CH}_3.\text{C} \left\{ \begin{array}{l} -\text{H} \\ =\text{S} \end{array} \right.$ is ethane-thial.

thiol—Thi—ol, a sulphur alcohol. Compounds in which the oxygen of the alcohol group is replaced by sulphur, thus ethane thiol is $\text{CH}_3.\text{CH}_2.\text{SH}$.

thione—Thi—one, a sulphur ketone. Ketone in which sulphur replaces the oxygen of the ketone group, thus $\text{CH}_3.\text{CS}.\text{CH}_3$ is propane-thione.

three—For use of the figure 3 see Note B.

toluyl—The monovalent radicle $\text{CH}_3.\text{C}_6\text{H}_4'$ derived from toluene (methyl-benzene) $\text{C}_6\text{H}_5\text{CH}_3$.

tolyl—Meaning the same as “toluyl,” which see,

tri—Three, thus chloroform CHCl_3 , is called tri-chlor-methane.

triatomic—Alcohols and phenols containing three hydroxyl groups are said to be triatomic, thus pyrogallol (1, 2, 3-phentriol) is a triatomic phenol.

two—For the significance of the figure 2 see Note B.

V—An abbreviation of viscinal.

viscinal—1, 2, 3-tri-derivatives of benzene, thus 1, 2, 3-tri-chlorbenzene is also called viscinal-tri-chlorbenzene see Note B, c.)

vinyl—A name sometimes applied to “ethynl,” which see, thus $\text{CH}_2\text{:CHOH}$, ethenol, is also called vinyl alcohol.

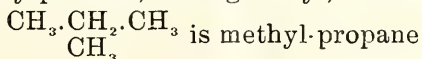
Yl—The ending -yl is characteristic of many radicles, thus methyl, ethyl, benzoyl, etc., which see.

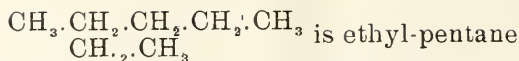
Note A. According to the rule adopted by a congress of chemists, held in Geneva, Switzerland, in 1902, (American Chemical Journal, vol. 15, p. 50. Berichte der deutschen chemischen Gesellschaft, vol. 26, p. 1595) the names of the saturated hydrocarbons, that is compounds of carbon and hydrogen in which the carbon atoms are united by single bonds or valencies only and which therefore contain no unsaturated valencies (double or treble bonds,) end in “ane” (in the German language the final e in this, and in similar endings, is dropped and the ending is “an”.) The first four hydrocarbons, CH_4 , $\text{CH}_3\cdot\text{CH}_3$, $\text{CH}_3\cdot\text{CH}_2\cdot\text{CH}_3$, $\text{CH}_3\cdot\text{CH}_2\cdot\text{CH}_2\cdot\text{CH}_3$ are called methane, ethane, propane, butane; also CH_2-CH_2 is cyclo-propane and $\text{CH}_2\cdot\text{CH}_2$ is cyclo-butane.



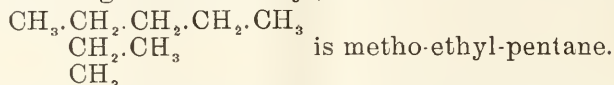
All other saturated hydrocarbons if normal, that is if no other carbon atom is combined with more than two other carbon atoms, are named by indicating the number of carbon atoms by a prefix derived from the Greek numerals and adding the suffix “ane,” thus C_5H_{12} , C_6H_{14} , C_7H_{16} , C_8H_{18} , C_9H_{20} , $\text{C}_{10}\text{H}_{22}$ are called pentane, hexane, heptane, octane, nonane, decane respectively.

The hydrocarbons which are not normal but contain a carbon atom combined with more than two carbon atoms, i. e. are branched chains, derive their names from the longest normal chain contained in them and the side chains are indicated by prefixes, ending in “yl,” thus:

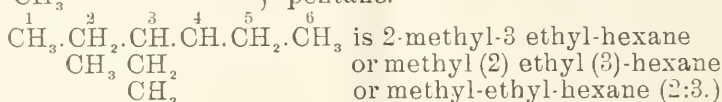
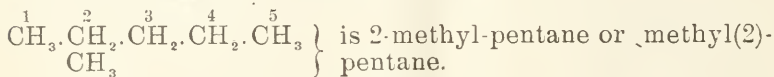




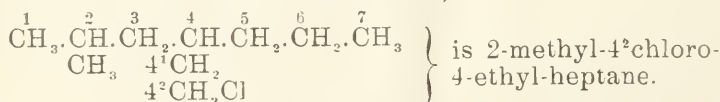
If the side chain also is branched, the branches are given these ending "o" instead "yl," thus



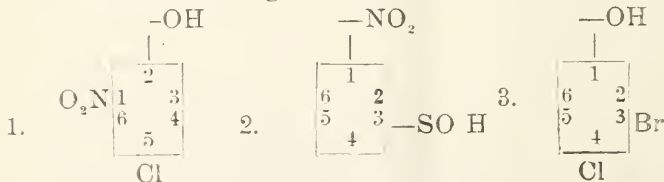
Note B. (a) To indicate the point of attachment of side chains the carbon atoms of the main chain are numbered beginning at the end nearest the side chain and the number of the carbon atom to which the side chain is attached added to the side chain. If there are two side chains equally distant from the ends then the numbering is begun at the end nearest the smaller side chain, thus:



If it is necessary to number the carbon atoms of a side chain then the numbers begin at the point of attachment and these numbers are added as indices to the number of the carbon atom of the main chain, thus:



(b) The carbon atoms of the benzene ring are numbered 1 to 6 from left to right. In poly-substitution compounds of benzene the numbering begins at the carbon atom attached to the element having the smallest atomic weight, thus:



—From the *Pharmaceutical Review*.
(To be continued.)

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DR. FERGUSON HIGHLY HONORED.

The career of Dr. Alexander Hugh Ferguson is a fine illustration of the fact that the end and aim of the medical profession is not limited to personal and individual benefits, nor to local conditions, but are co extensive in beneficence, with the welfare of the whole people. His work strongly emphasizes the altruism that always characterizes the true physician. It is therefore a real pleasure to refer to the achievements of one who has recently been honored in an exceptional manner by the ruler of a foreign country. Dr. Ferguson was informed the other day that he had been awarded a commandership in the Order of Christ in Portugal, the highest decoration that King Carlos of that country can bestow on any one outside of royalty.

Dr. Ferguson was notified of the award in a letter received from De Ribeiro, consul of Portugal in Chicago, in which the latter extended his congratulations on behalf of his government, "for rendering justice to your great talent in surgery." He has also received the congratulations of many associates in the profession since the announcement of the bestowal of this decoration was first made public.

Dr. Ferguson is a native of Canada, where he was born in 1853, being a son of Alexander and Annie (McFadyen) Ferguson, both natives of Argyleshire, Scotland. He was educated at Rockwood Academy and Manitoba College

subsequently teaching school and serving as an instructor in his alma mater. He began his medical studies under Dr. John H. O'Donnell, at Winnipeg, in 1877. He then took a course in the Medical College of Trinity University at Toronto, becoming honor graduate, M. B., in 1881, and later, in the same year, honor graduate, M. D., C. M., of Trinity University. He spent part of his time, soon after his graduation in visiting various American Hospitals and in taking a special course at Koch's laboratory, Berlin.

He entered upon the practice of his profession at Buffalo, N. Y., in 1881, but soon after returned to Winnipeg, where he practiced until 1894, at the same time being largely instrumental in founding the Manitoba Medical College. In this institution he was professor of physiology and histology for three years, and professor of surgery from 1886 to 1894. During the same time he was a member of the medical staff of various hospitals and was chosen first president of the Manitoba branch of the British Medical Association.

Since 1894 Dr. Ferguson has been an eminent member of the medical profession in Chicago, which is now recognized as one of the greatest centers of medical education in the United States. He was induced to come here as professor of surgery in the Post Graduate Medical School, and in 1900 was elected to the position he now holds as professor of clinical surgery in the college of Physicians and Surgeons (the medical department of the Illinois State University.) He was formerly surgeon to various Chicago and Cook County hospitals. His achievements are widely known to the profession, as he has performed many major and original operations with pronounced success. while he is also the author of numerous valuable papers on difficult operations. He is a leading and influential member of various technical and medical societies, and a past president of the Chicago Medical Society as well as of the Western Surgical and Gynecological Society.

The world is always in need of physicians and surgeons who are courageous and resolute under responsibility, and that Dr. Ferguson is pre-eminently a man of this character

all who know him will cheerfully testify. He is imperturbable in the presence of danger, conservative, yet bold; in professional relations patient, cheerful and tender. He has been a diligent learner as well as a diligent teacher throughout his honorable and highly successful career. Dealing with life itself and the mysteries of birth and death, the doctor with high ideals develops in his calling the finest virtues in our nature. He accomplishes much for public health and happiness, contributing to the advancement of medical knowledge and to the industrial and economic interests of the community and its moral welfare.

Since coming to Chicago Dr. Ferguson has attained an enviable recognition, a very large following and a phenomenal success. In Chicago every man is rated purely on his merits, and the doctor has been rewarded for his honest toil and abilities as a teacher and surgeon. In post-graduate teaching he has few equals anywhere, and his clinical demonstrations are exceedingly artistic. The American Journal of Surgery recently spoke of him as "the most clean and clever operator on the western continent." It is no wonder that in his public clinics and private hospital are to be found patients from the most distant parts of the land and from foreign countries. He has been called to operate to the Pacific coast, the Atlantic Seaboard, to the Gulf of Mexico and many times to Canada.

Upon being asked the secret of his success in Chicago, Dr. Ferguson said: "Well, while I brought with me the good wishes of the profession and people of Canada as well as a varied experience. I believe my success can be attributed to one thing: conscientious work. Before operating on any case, rich or poor, I propound this question to myself: If I were this patient should I consent to be operated on? This is my surgical golden rule. It is invaluable."—*The Commercial Chronicle*.

[Dr. Ferguson is one of our clinical professors in surgery, than whom there are no better in the world, and the college has reason to congratulate itself as well as him for this new honor. This is the third compliment paid to mem-

bers of our faculty within the last year and a half, Dean Quine and Prof. Steele having been honored by the University of Illinois with an L. L. D.

It is such honors as these that establish the standard by which a college is rated, and we should all feel deeply grateful to the men by whose work and ability such things are brought about.

HOSPITAL MANAGEMENT.

By A. RALPH JOHNSTONE, M. D., Superintendent Lakeside Hospital.

In attempting an article on the subject of Hospital management one should base his judgement on personal experience and observation and as the experience of the author is limited to the management of a private hospital for the care of acute surgical and medical cases the subject matter of this article must be understood to apply to the management of such institutions only.

This statement immediately suggests the question of specialization in hospital work, for specialization is essential to good management. The equipment of a hospital for acute cases, the training of its nurses and internes, the usual location of such a hospital in a large city, unfits it for the management of sanitarium cases. The neurasthenic patient, the ataxic case, the drug habitue, the chronic mental case, all require specially instructed nurses and attendants and should be treated in sanatoria from which the acute surgical and medical case is excluded if the best results are to be obtained.

The private hospital for the care of acute cases is usually open to the profession at large and in its management a number of important desiderata are to be striven for and attained. It is essential that the needs of the patient and of the attending physician or surgeon be satisfied and at the same time the institution be made financially successful.

If these objects are to be accomplished it is necessary to have the different departments of the working force well

organized and coordinated and to have the whole force working under one head. Serious, even fatal confusion results from having too many heads of departments who are so prone to work at cross purposes with one another.

To begin with the nursing staff in an institution of say, seventy-five beds and in which there will be an average of fifteen specials, a school of forty-five nurses will be required.

These nurses should be very carefully chosen and the choice should depend not so much upon educational requirements as upon general fitness for the work. An arbitrary requirement of high school graduation may be well but it shuts out some of the best available material for nurses.

The nurse having been accepted she must be carefully instructed, not only in practical and theoretical nursing but also in the ethical relationship that she bears to the patient, the attending physician, her fellow nurses and the institution. The discipline must be reasonably strict. In this matter of discipline the maintainance of a high moral tone and the need of doing our full duty to the patient must be rigidly enforced. Trivialities may perhaps best be ignored but the seriousness of the calling, the necessity for thoughtfulness of the interests of the patient must always be the predominant note. Discipline should be uniform rather than severe. Showiness is easily possible but a serious and constant attitude of care is difficult to obtain.

The relation of the management of a hospital to the attending physicians and surgeons is always a difficult problem. No one can so well manage a private hospital as a physician for no one can so well appreciate its requirements; yet the physician who undertakes it must have peculiar qualifications.

It is safe to say that no surgeon managing a private hospital of fifty beds can keep that hospital filled with his own patients drawn from a personal practice however large, so that he must depend in part, and in no small part, upon the patronage of other physicians and surgeons for the maintainance of the hospital. Then if he is an ambitious surgeon he will of necessity be very circumspect in his

dealings with other men who bring their cases within his doors if he is to escape the charge of unfairness. He must see to it that the nurses and internes under his charge do not advertise his abilities and the number of his operations in an unseemly manner to the patients of other men.

Then the management must exercise some kind of control over those men who operate on cases in the hospital. It is undoubtedly true that men without sufficient preparation and training and sometimes without careful thought of what they are going to do attempt operations that they are not able to do, and these men bring discredit on the hospitals to which they bring their cases. Unfortunately the state in granting the right to practice medicine and surgery is restricted by arbitrary rules and the hospital management must, in some manner, at least, be a party to such incompetency as results. The closed staff is only a partial remedy for such evils and is not always practicable.

In this relation, again, it not infrequently happens that the occasional patron of the hospital is a man of very fair ability and makes an excellent showing in the operating room or at the bedside.

The scope of this article limits the discussion to a general survey of the field. There are a multiplicity of details that cannot even be touched upon.

The non-professional help about the hospital furnishes one of its difficult problems and is a more formidable element than is ordinarily supposed. Economy demands, for instance, that the hospital laundry be done on the premises. This means the operating of laundry machinery and consequently a power plant with engineer and fireman, and if the plant is at all large, and especially if it includes dynamos for electric lighting, a night engineer becomes necessary. The laundry will employ not less than four women, usually five; the kitchen and dining room will employ five or six women, and two or more maids for rough cleaning on the floors will be found necessary, or at least a saving in that they allow of more nurses for special duty. A janitor and elevator boy will complete the rough help. The office force

will consist usually of two people, and finally the medical superintendant and the superintendent of nurses complete the paid help. The nurses are usually allowed a small amount each month to cover the cost of uniforms.

In the buying of supplies for such a hospital considerable room for the exercise of judgment may be found. There are occasional opportunities for the purchase of linen and other supplies that may well be taken advantage of and on the other hand there are always people who are anxious to prove that by putting in some device or buying some special class of goods a large saving may be effected. Many of these are valueless and all should be carefully inspected before purchases are made.

In the purchase of staples it will usually be found that some reliable firm, if dealt with exclusively for that special line of goods, will give the best terms and the greatest satisfaction if the accounts for the whole year are studied and compared with a year in which the bargain hunting process has been followed.

In the matter of surgical supplies the best should be bought. It is poor economy to buy cheap instruments or cheap ligature and suture material or other operating room furniture of any kind.

Home sterilizing of catgut may be well in a large hospital and may effect a material saving, but in the smaller hospital if a clean wound becomes infected the operator invariably places the blame on the service or the catgut, never admitting the possibility of his having dirty hands or being at fault in his technique. For this reason I consider it a saving to use only a reliable brand of catgut prepared by some well known firm and also to insist on my internes wearing gloves in all operations, and to offer them to the operator so that as far as possible infections may be prevented and if they do occur to limit the responsibility of the house to the minimum.

The last question I wish to discuss in this article relates to the organization of the hospital.

The large quasi charity hospital is an organization by

itself and does not come within the scope of this article except in a very limited sense. These institutions have many and some very greivous faults from the standpoint of the profession at large. They serve well the purposes of the few but very badly the many, and for the most part the charity element is forceful only for purposes of pulpit oratory and to give vent for the surplus energy of boards of lady managers.

The organization of the private hospital, and the term private, in the sense in which it is used here, serves only to distinguish it from the so-called church or charitable hospital, is always either a one man institution or a close corporation.

If the hospital has accomodation for forty or more patients and one man alone is in control he must of necessity assume a large responsibility commercially and professionally. The multiplicity of details to which he must give attention so occupies his time that he can never be said to have finished his work and unless he has considerable capacity for organization and an even temperament it will quickly wear him out.

If a number of good men can be gotten together the best organization for the conservation of all interests is that of a closed corporation under the supervision of a competent medical superintendent. To be successful in the fullest sense the management must be absolutely fair and if physicians not on the staff are invited to bring patients to such a hospital their interests so far as their cases are concerned must be rigidly protected and they are entitled to the best service the hospital affords.

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MEDICAL DEPARTMENT

UNIVERSITY OF ILLINOIS.

CHICAGO.

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SENIOR NOTES.

Sher thinks the best way to demonstrate succussion sounds is to have the patient shake himself.

Sherper thinks he prefers his complaint to sawing wood.

There was a quiet rumor about the campus that Hageman had been quietly married. When questioned by the writer he admitted the rumor was true, but desires it kept rather quiet so his wife's parents won't find it out.

Persons suffering from obstinate vomiting are advised to take their morning refreshments before arising; this is easily done by taking a roll in bed.

Dr. Wells informs us that not all persons with large abdomens are at the head of a trust.

Staley spent a week at home, and as car-rides are somewhat expensive felt that he must economize on his return to the city. Not being inclined to cut down on his meals he decided to make a reduction in his laundry bill, so went to the lecture without collar or necktie. Some of the boys thought he was starting a new style and were very liberal in their criticisms of it. As a result Mr. Staley has fallen into his old habit of wearing a collar.

The Senior members of the quiz class are H. J. Smith, G. L. Davenport, L. C. Phillips, G. J. Mautz, E. W. Thurer and the Misses Clara Seippel and Betty Nilsson.

Messrs. Gunn, Disney, Holm and Schiffbauer are doing hospital work at Augustana Hospital.

Dr. Williamson said the position of the stomach in gastroptosis reminded one of a couple in a hammock. One would guess from the smiles provoked by this comparison that the Misses Zalesky and Nilsson knew exactly how it would look.

Dr. Wells (looking for a student from a malarial district).—"Is there anybody here from Arkansas?"

Somebody mentioned Mr. Bundy.

Dr. Wells—"Mr. Bundy, are you from Arkansas?"

Mr. Bundy—"No sir. I'm from Missouri."

Dr. Wells—"Alright, you're just the one I'm looking for. You may come down."

Mr. Ameen, a member of our class in the Freshman year, has returned to it, to get the other end of his medical course rounded out. He expects to return to Persia to practice his profession.

Mr. Bulger got his countryfied ideas somewhat twisted

when Dr. Earle asked him what "whey" was. He wasn't just sure whether it was curdled milk or the scum that rises in the process of making soap.

JUNIOR NOTES.

Charles Skwor earned five dollars on election day. We deem it advisable to state here that he did not sell his vote but earned this by electioneering at which he is a vote getter. His brother was here to see that Charles was not being led astray, and seems to be well pleased with the school. Charlie is now afflicted with alopecia, and the treatment has been the application of the cautery to the distal end of the cranial hair, or in other words a hair singe.

Papa Berry, the real Berry, is becoming quite proficient in holding the clinic patients, especially those under fourteen months.

Our sick committee, composed of Messrs. Dowd, Schroeder, Goembel and Miss Lee, are quite busy and the sick list long. N. D. Lee has had an attack of appendicitis but is now out of the hospital, and we expect him at school again very soon.

Glen Godfrey Gordon and Oscar Ishmael are trying to raise mustaches.

Two members of the Junior class are carrying a scanty growth of hair on their upper lips. According to a report the man who removes this growth first pays for a liter of spiritus frumenti. Their friends are hopefully waiting for the outcome of the contest.

Jacob Lunn reports a very interesting case where milk was found in the urine of a patient. He has neglected to give such particulars as to testing for the substance, diagnosis, prognosis and treatment.

The Junior Prom has been proposed and every one should work to make it a grand success.

NEW BOOKS.

The P. & S. Mystery, or Who Stole Hutchinson's Shirt, is now on sale. This new story by a popular author promises to have a large sale. The exciting cause of the story was an incident which happened in one of the sections of Physical Diagnosis. The professor asked for a volunteer and Chas Hutchinson responded with his usual good nature. During the examination some desperate villain steals the shirt, and the professor and students spend much time in a search for it. In the meantime the blushing victim had to stand around for two hours without that necessary article of wear. It was found later but the desperate character who did the deed is still at large. Several amateur sleuths are at work on the case and the authorities have been notified. This is the first mention that has been made to the public as it was hoped that secrecy would aid in capturing the thief.

Three Buckets of Blood or The Beer Brewer's Revenge is another novel on sale now. It will be of special interest to medical students, for it describes a method of treating aneurism by introducing a stiletto into the dilated artery, and is far more interesting than any surgery we have seen. The author is too well known to need mention.

J. F. Dennis has a book in preparation which will also interest medical students. It is the anatomy of the inguinal artery. He was induced to write this by Dr. Eisendrath's story of his patient with the historical disposition.

SOPHOMORE NOTES.

The research work of the Sophomore class has been pregnant with results. Mr. Ely, who has been working on embryology has discovered that the brain is an embryological derivative of the head end of the foregut, being a derivative of the first visceral arch.

Mr. Beyer has discovered an ameba of enormous size, probably of the anthropoid species. This discovery has

caused great sensation among scientists on account of its size. The ameba measured $5\frac{1}{2}$ inches in diameter. Mr. Beyer also discovered a Guinea Pig weighing 250 pounds.

Hughes, McGee, Pugh and Cooperstein have also contributed several valuable additions to science.

FRESHMAN NOTES.

The initiation days are now a thing of the past and we are all becoming acquainted with the difficulties of a Freshman and wondering what will be next.

It was clearly demonstrated to the class that Cohen has visited 406 when on being asked the organs of locomotion replied: "Apendix."

Although we have been here but a short time we are confronted with a few bewildering questions:

Shall we permit Miss Farbar to become a semi sophomore?

Why Dr. Wentz has dropped eternity?

Why Miss Dale prefers the last seat in the sixth aisle?

Why Bary doesn't take his quartett to afericle?

Dr. White—"What do we find in Scarpa's triangle?"

Parker—"Round steak."

Dr. White says: "Printers cannot be trusted, boys." Wonder what he thinks of writers on examination days?

ALUMNI NOTES.

Dr. Thomas J. Jackson, '97, is Professor of Chemistry in Dearborn Medical College.

Dr. George R. Osborn, '06, reports the birth of a daughter, born Sept. 18, '06.

Dr. W. Bert Siders, '06, reports the birth of a son.

Dr. J. P. O'Connell, '06, is practicing his profession in Chicago and reports satisfactory progress.

Dr. D. C. Dodds, '03, of Summerfield, Kan., was a recent caller.

Dr. C. W. Geiger, '04, is practicing now at Kankakee, Ill.

Dr. Lachlan MacMillan, '06, was successful in the examination of the State Board of British Columbia, Canada, he being one of the 13 out of 24 to pass. Congratulations.

FOOT BALL.

The P. & S. foot ball team played the team representing the Chicago College of Dental Surgery, at the West End grounds, 48th Ave. and Madison St., Friday, Nov. 2.

The game was an extremely interesting one from a spectator's standpoint although neither team was able to score.

Our team had much the better of the dents in every department of the game except punting, and time after time had the ball within scoring distance of their opponent's goal only to loose it and have it punted to safety.

The field was soft and slippery which aided greatly in slowing up our team and prevented any phenominal plays.

Conroy was easily the star and frequently carried the ball for big gains.

There is some talk of another game to be played Friday, Nov. 16, but the dents have probably had enough of the P. & S. game to last them for one year.

Os-Kee-Wow-Wow!

Skin-Nee-Wow-Wow!

Illinois! Illinois!

Wow!

LIBRARY NOTES.

A VALUABLE COLLECTION OF BOOKS.

Some months ago Dr. Emmet L. Smith, P. & S. '93, presented to the Quine Library a collection of early medical Americana which represents the fruits of years of painstaking search in the second hand book shops of Chicago, New York and London and the discriminating knowledge of

early American classics of medicine. The object being to collect the books showing the transition of medicine and surgery from the English and French to the early American period.

This gift of Dr. Smith's, added to the donations of Dr. Quine and others, which have been made from time to time, makes a valuable and representative collection of the medical literature of the latter part of the 18th and the early part of the 19th centuries.

One of the first subjects to interest the settlers in America was a knowledge of the plants and herbs that were found in this new country and the application of their medicinal properties to the healing of disease. The father of American materia medica is Dr. Benjamin Smith Barton, whose elements of botany published in 1803 is the first American work on this subject. After his death in 1815 the work was carried on by his nephew Dr. Wm. P. C. Barton whose first work, Vegetable Materia Medica of the United States, appeared in 1817. Of this work the Quine Library owns a well preserved copy.

The next writer of importance was Dr. Nathaniel Chapman whose Elements of Therapeutics and Materia Medica appeared in 1817. Of this work we own the fourth edition, published in 1827. The library is also fortunate in the possession of the second edition of Dr. John Eber's work, published in 1834. In this line also is the first American Dispensatory issued by John Redman Coxe in 1806. The copy owned by the Quine Library is in an excellent state of preservation. Of the contributors to the literature of Materia Medica and Therapeutics who appeared a little later, the most important are: Stille, G. B. Wood, Dunglison, H. C. Wood and Ringer, each of whom is represented in our library by at least one work.

The most popular and earliest treatise on the practice of medicine, is the two volume work by Dr. George B. Wood, published in 1847. Of this work we own the fifth edition, published in 1858. Following this practice of medicine was that of Dr. Austin Flint, whose Principles and

Practices of Medicines appeared in 1866 and is in the Quine Library collection.

The first physician west of the Alleghanys to give prominence was Dr. Daniel Drake, of Cincinnati. He was a man of keen observation and of wide acquaintance and to these qualities we owe his great work: Diseases of the Interior Valley of North America. This work is in two volumes, it is one of the classics of medicine and is frequently consulted, still being an authority.

The American Surgeons early began to make contributions to the literature of surgery and their writings have been both brilliant and voluminous.

The first American text-book on surgery was written by Dr. John Syug Dorsey, appearing in 1813. This is a two-volume work profusely illustrated by most excellent wood cuts, many of them the work of the author.

For many years this was used as a text-book in all American colleges and for sometime in the University of Edinburg. The library is fortunate in owning both the first and the third edition of this surgery.

Dr. Samuel D. Gross, born in 1803, was for many years considered the leading surgeon of the United States.

His first work, Elements of Pathological Anatomy, was published in 1839 and is one of the earliest works on this subject in English. We own the second edition, published in 1845, we also own four other works by Dr. Gross who left many writings to attest to his work as a student and surgeon.

The first American Anatomy was written by Dr. Caspar Wistar. We own the editions of 1827, edited by Dr. Horner. This is a two-volume work, well illustrated.

The early writers on Physiology were Dunglison, Draper, Dalton and Flint, with the exception of Dunglison our Physiology section is represented by each of these writers.

Among the gifts of Dr. Smith are many American editors of important works issued during the early part of the 19th century, and some valuable English works published about this time, the following is a partial list:

Charles Bell—A System of Dissections, 2 vols. published in 1814.

Charles Bell—Treatise on Diseases of the Urethra, Vesica Urinaria, Prostate and Rectum, published in 1820.

Charles Bell—The Anatomy and Physiology of the Human Body, published in 1809.

Charles Bell and John Bell—Anatomy and Physiology, 3 vols., 7th edition, published in 1829.

John Bell. Discourses on the Nature and Cure of Wounds, published in 1807.

John Bell, Principles of Surgery, published in 1812.

Benjamin Bell—Treatise of the Theory and Management of Ulcers, with a Dissertation on White Swellings of the Joints, published in 1797.

William Cullen—First Lines on the Practice of Physic, 2 vols., edition 4, published in 1784.

Andrew Duncan—Medical Commentaries for the Year 1794.

Samuel Cooper—Dictionary of the Practice of Surgery, 2 vols., published in 1836.

Charles Scudmore—Treatise on the Nature and Cure of Gout and Rheumatism, published in 1819.

Albert von Haller—First Lines on Physiology, published in 1803.

William E. Horner—Treatise on Pathological Anatomy, published in 1829.

It is not in Text-books that the great number of original contributions to the literature of medicine have been made but through the medical journals and the transactions of medical societies which furnish the data that is expanded into monographs and text-book. The Quine Library has always been eager to complete its files of journals and is fortunate in owning some of the most valuable of the journals published early in the history of our country. The following is a partial list: American Journal of Medical Sciences from vol. 1, 1827, to date. This set is conceded to be the most valuable medical publication that has been produced in America. American Medical Recorder, vol. 5, 1822, and vol. 14, 1829. Philadelphia Journal of Medicine and Physiological Science, vol. 1 to vol. 14, 1820 to 1827. This is the complete file. The Boston Medical and Surgical Journal, 1828 to 1900, vol. 1 to vol. 144. Vol. 2 and a few of the later volumes are wanting to make this set complete.

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CONSTRUCTIVE DISEASES OF DENTAL PULP.

BY CHARLET KNIESE.

Of all the tissues of the teeth the pulp is most subject to pathological changes. Normally this delicate and sensitive organ is well guarded by rigid walls, which not only protect it against external forces, but also against extreme thermal changes to which the oral cavity is exposed.

We must bear in mind that the pulp is very vascular and sensitive, that the vessels and nerves are supported by a soft cellular substance of connective tissue, and that the whole organ is contained in an unyielding cavity, whose only entrance and exit is a small foramen, whose caliber may not be larger than a bristle.

Through the opening the blood enters and in due time is returned. The whole forming a very delicate piece of machinery capable of performing its duties when in natural adjustment,

Any agency that interferes with the protection with which nature has clothed the pulp, is calculated to set up morbid changes in its structure and interfere with its functions thereby producing either acute or chronic conditions.

The acute diseases are usually destructive, while structural and constructive changes are more characteristic in the chronic.

Constructive diseases are those accompanied by the formation of deposits of calcific material which is subject to formation upon irritation of the peripheral cell of the pulp.

This irritation is usually due to the loss of enamel by caries, mechanical abrasion, or any source which deprives the dentine of its natural protective covering.

The vital portions being thus exposed, it is evident that the morbid conditions developed by the cells, exposure, are expressions of pulp disturbance and we can expect to find a reaction on the part of the pulp. This depends, however, on the severity of the irritation, the duration, and number of times sources of irritation have been in operation.

The pulp therefore endeavors to protect itself against the irritation and as result we have the following formations: tubular calcification, secondary dentine, pulp nodules, and calcarious degeneration.

By tubular calcification is meant the constructive changes in the walls of the tubules of the dentine which efface the dental tubuli, caused by a mild degree of irritation that has not passed the stage inducing constructive metamorphosis.

The fibrillæ become smaller in diameter as the lumen of the tubules decrease and the dentine frequently become less sensitive.

This disease is confined to the dentine which after the altered condition becomes translucent, resembling a horn in appearance and in senility may become quite transparent.

In the cases due to age it is probably a local expression of a sclerotic change. The intercellular substance is formed at the expense of the cellular fibrillæ.

It may be regarded as a barrier erected against the progress of caries, erosion, abrasion, etc., thereby delaying the disintegration but it does not prevent it.

Turning now to the secondary dentine we find it to be a

deposit of dentine upon the wall of the pulp chamber, deposited after the pulp has had a period of rest from dentine construction.

This secondary formation is due to a stimulation of the pulp to increased functional activity and may be caused by any constant irritation of the dentinal fibrillæ, such as caries, abraded or eroded surfaces, metallic fillings that are conductors of thermal changes, gold crowns upon the ground down crowns of vital teeth, etc.

We usually note the formation opposite an area of injury. It is distinguished from normal dentine by its translucency and sometimes its color which may be a light brown.

The deposit may be either regular or irregular in distribution and in some cases it assumes a tumor like formation.

Tomes describes a case of absolute exposure of pulp by fracture during extraction in which a plastic exudation was formed which later calcified. Then an irregular lamina was formed and lastly dentine containing tubules, thus covering the pulp completely.

That portion next to the true or primary dentine contains an almost normal number of tubules but their direction is sharply changed and as the formation becomes thicker the tubules are fewer, and that portion next to the pulp has no definite form.

In abrasion the deposit is much more regular than in caries, probably caused by the irritation to the fibrillæ to be much more regular, and the entire crown may be worn away without pulp exposure.

In some cases the deposit extends well into the canals and totally effaces them for much of their length. There seems to be a difference of opinion as to the formation, whether by the pulp cells or the odontoblasts.

Smith regards it as formed by pulp cells rather than by the odontoblasts, the pulp depositing calcoglobulin against the dentine; others contend that the calcoglobulin is deposited about pre-existing fibrillæ, which continued to persist in the new formation.

The building up of large masses often results in neuralgia or death of the pulp.

No treatment is required where the deposit has been regularly laid down, but in cases where pulp disease is evident, or inferred from symptoms, the pulp should be removed.

This may be found to be a tedious operation and may necessitate the removal of much dentine, especially at the portion nearest the pulp chamber.

This condition may be more or less complicated by the presence of pulp nodules, which are groups of calcific material, resulting from secretion and situated within the substance of the pulp. These nodular calcifications are very frequently found in teeth whose pulps have been directly irritated by caries, abrasion, erosion, etc.; however, they may and do form in other teeth of the same denture which have not been directly subjected to the irritation.

It has been noted that irritation of the pulp of one tooth frequently causes a general hyperaesthesia of the pulps of all, this is most notable in people of a neuralgic tendency.

The nodules occur more frequently in masses than singly, and the larger ones may be formed by the coalescence of the smaller. They are more often present in middle aged people than children although they have been found as early as the fifteenth year.

The nodules are very irregular in formation and range from very minute bodies to a size sufficient to almost fill the entire pulp cavity.

A section exhibits the presence of a number of concentrically laminated bodies recognized as hardened calcospherites.

Some present a laminated structureless material, the lamina being arranged around a central nucleus, thought to be calcified dead cells.

The pulp cells under irritation secrete calcoglobulin, which is developed in part into spherites, and the rest remaining without definite histological characteristics, after which the masses are calcified.

The formation has a tendency to increase in size whether the masses are formed by cell secretion or otherwise.

They occur more frequently in the coronal portions of the pulp, but sometimes are found deeper in the root and in this position they may be embedded in secondary dentine.

If they obstruct the lumen of the canal they may cause great pain due to interference with the nerve tissue and circulation.

The presence of multiple nodules do not always give rise to pain, as we find teeth that have been extracted to possess them and there being no history of pain connected with the case.

On the contrary we may have severe pain (usually reflex) upon the part of the pulp without any great depth of a caries cavity, which upon examination would be found to possess pulp nodules.

Apparently sound teeth contain them and the pulps of such teeth may become extremely hyperaesthetic under what are commonly mild sources of irritation.

This is manifested first through the contents of the dental tubule, the dentine becoming very sensitive and any cold substance directed against the tooth may produce paroxysmal and severely painful repose from the pulp.

When there is no direct irritation there may not be any direct dental symptom, but a persistent neuralgia may be located at some distant point as pain in the ear, which may be recurrent or persistent, and a pulp nodule may be suspected in the absence of a more probable explanation of the pain.

In large deposits the dentine may be almost devoid of sensation, and application of heat or cold even in large cavities may not be followed by any pulp response, however, we commonly have a history of vague dental pains or reflex neuralgia extending over a period of perhaps years.

The diagnosis of some cases by symptoms is only inferential and confirmation lacking until after exploration and the finding of pulp stones in the substance of the pulp,

Pulps, inferred or known to contain nodules, should be

removed. This may be accomplished by devitalization with arsenic. However in some cases it causes great pain which may continue for quite a period, as the medicine is taken up very slowly by the nerve.

Pressure anaesthesia may be employed. This though as with arnica, is very slow in action.

If the nodule be large and difficult to remove apply a solution of sulphuric acid. This will destroy the organic matter of the pulp and the nodule may be easily removed. The nerve should be removed and root canals filled or treated as in ordinary cases.

We have still another form of calcification known as calcific degeneration, which is an infiltration of the inorganic matter into the tissue undergoing degeneration.

The prevailing belief is that the deposit of salts is a mere precipitation, and that the calcification results from a combination of salts with an albuminous base and fatty acids.

Ordinarily carbonate and phosphate of calcium are in infiltrating salts, but in gout uric acid salts are deposited, due to an excess of uric acid in the form of urates in the body of fluids.

The conditions necessary for calcific degeneration are those occurring in a semi-stagnant blood current.

Carbon dioxide being in excess an acid reaction occurs and the albuminous matter is subject to degenerative changes owing to the faulty nutritive supply and waste removal.

It is the supposition that some cells die and the tissue becomes infiltrated by the cells having an infinity for the inorganic salts which are taken up from the lymph.

Pulp exhaustion, due to secondary dentine formation, pulp nodules and continued hyperaemia or chronic inflammation in which venous hyperaemia plays a part are causes producing a sufficient degeneration of the pulp tissue to produce calcific degeneration.

An evidence of which is the easy removal of the pulp even to the most minute apical portion, due to the absence of the usual odontoblastic attachments to the dentine.

After extraction the pulp has a gritty feel to the fingers and when dry is quite stiff.

Degenerations present symptoms of reflex pain often referred to other parts.

Response to hot applications is usually greater than to cold ones, but both are delayed.

The X-ray will provide a positive diagnosis. In its absence the diagnosis, apart from the inference from symptoms is a post mortem one.

In cases where there is delayed response to intense thermal tests applied to a clean pulpal wall and from symptoms warranting interference, we should remove the pulp.

This will when removed be found to contain one or more, perhaps many, large granular masses. The canals may be filled as in ordinary cases.

Having reviewed all the constructive diseases of the pulp, we find an evidence of an attempt on the part of the pulp to protect itself, but in all the cases except tubular calcification and a very regular deposited secondary dentine the effect react upon the pulp itself, causing its destruction. The extent therefore to which constructive formations are beneficial is an open question.

FALSE TEETH DECLARED A DISASTER TO THE AGED.

A recent lecturer on hygiene declares that nature so constituted us that, when the mouth lost its teeth, the stomach lost its power to digest properly anything that could not be masticated by the gums. Hence false teeth are disaster to the aged. A convert to this view sings, in the *Pall Mall Gazette*:

Nature when she made our frame,
Knew quite well her little game;
And the Grand Old Nurse intended
That our gums be undefended
When, at three-score years and ten,
We were getting oldish men.

When our gums are free from teeth,
'Tis a sign of things beneath;
Only what our gums can chew
Is the food for me and you.
Pap, I'm sure, beyond all question's
Best for elderly digestions.

Soft and Sweet should be our forage,
Nothing harder much than porridge,
Milk our normal liquid diet,
(Whiskey, p'raps, upon the quiet);
Butter, bread, an egg or two,
And, at Christmas time, a stew.

But the dentists, wicked men,
When we get to three-score ten
Offer rows of ivory teeth
Gleaming from their crimson sheath;
How men fall before the bait;
Then repent—alas! too late.

NEW SPELLING.

An extenshun telefon is a grate modern invenshun. It attaches to the mane telefon but is usually lokated upstares. It is espeshully valuable at nite—no running down stares to anser a call or to signal central. Since the Chicago Telefon Company reduced the cost to fifty cents per month every telefon user shud have an extenshun.

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P. O. MARTIN, '07.

ALUMNI ITEMS.

Anent the present scarcity of competent drug clerks and assistants—a condition which seems to be widespread and not the result of unfavorable legislation, or exceptionally difficult Board or Pharmacy examinations, which would be necessarily local in application—it is worth while calling attention to the number of pharmaceutically-trained young men who are absorbed by the various manufacturing interests in the capacity of chemists, superintendents and salesmen.

Last summer when the Searle & Hereth Company was sold to a St. Louis firm three of our alumni who had been employed in the laboratories of the S. & H. company for periods ranging from three to nine years found themselves at liberty to seek for employment elsewhere and it is worthy of note that all three had several offers from firms in the same or related lines in various parts of the country. As a result Mr. A. D. Thorburn '94, is now chemist and superintendent for the Pitman, Myers Co., Indianapolis; Mr. L. I. Schreiner '96 is with the United Drug Co., Boston, and Mr. G. A. Brenke '02 is chemist with Crofts & Reed, Chicago.

The colleges of pharmacy are sometimes accused of ad-

ding to the competition in the pharmaceutical field by inducing young men to enter upon pharmacy as a career. While this is undoubtedly true, it must not be forgotten that a pharmaceutical education aids very many drug clerks to more congenial and perhaps more lucrative employment in related lines thus markedly lessening the number of those, who being fully qualified to do so, would otherwise embark in the retail drug business on their own account.

C. F. R. Schaffarzick '01, (P. & S. '05) is now engaged in medical practice, with excellent prospects, at Lake Mills, Wisconsin.

T. H. Wile, '05, has removed to Camden, Ark., where he is prescriptionist for the O. D. Hardy Drug Co.

Charles Venn, '04, passed the Illinois State Board for the registered pharmacist certificate at the October examination.

Dr. C. F. Stockert, '89, visited the school recently. He is taking post-graduate work in a medical specialty.

SENIOR NOTES.

Latest election returns: Karl E. Anderson, president; Andrew Bakkers, vice-president; George Thompson, Secretary; Frank E. Blake, treasurer; P. O. Martin, class editor, Hugh McNair, sergeant-at-arms; Executive committee, K. B. Blahnik, Max Mendelssohn, E. T. Schumm, F. N. Buerkett, A. J. Nelson.

Any one having a cough call on K. E. Anderson for his celebrated cough remedy.

Any one in need of a flower, or a wall fixture apply to A. J. Nelson.

According to a promising candidate for pharmaceutical honors the directions to be observed in taking tincture of iron is to remove the teeth so that the enamel may not be affected.

THE PHARMACIST.

Speak gently to the Pharmacist
Oh, do not be unkind.

You know he has a lot of care

And trouble on his mind.

He cannot see the pleasure which
Inspired your merry chaff;

He's been so busy filling R's
He hasn't time to laugh.

He has to labor, night and day
His college clerks to tell

The way to make the windows pay
(And also how to spell)

Don't jest with an unkind intent
Of drugs that bring him fame

It may have been a batch of pills
For which he's not to blame.

THE STARTING OF THE WHEEL.

The starting of the wheel on the road to success began with the usual enrollment of noble Seniors, who strolled through the massive corridors into the Actuary's office to pay him most due respect, and other dues, upon the opening day.

From thence the student went with a gay heart to join his fellows in the Assembly hall where he would receive a glad word from the Dear Old Dean.

Oh, as we sat and listened to that opening address, our hearts throbbed to think of the tangled road that lay before us to be weeded out and cleared away before we could march on to victory.

Although some things will only be of a fungus growth yet others will take on that hard and woody nature which will require lots of hewing and burning of midnight oil to complete the work successfully.

With such thoughts filing the mind, the senior who had planned so easy a conquest, passed the hour of *Materia Medica* of that glorious summer day.

From here we went up higher to renew our acquaintance with Professor Hallberg, Master of all Modern Pharmacy. Here we expected a rest, but to our disappointment it did not materialize.

After a few words of welcome and advice the Professor

began his lecture; and Oh, the technical terms he did use, Paracetpneuettidin, and others of its kind.

Then for a joke he told us how the printer had held up the job on his syllabus of the lecture course, but when it did arrive, we gave it a warm welcome and were called down with a lecture upon "Athletics" which we will long remember.

But after the examination which came a little later we were all very good and willing to tend strictly to business, except our noble president who one day disturbed a lecture by sharpening a pencil, which I am sure will not occur again.

In the laboratory when we meet Snow, who is another professor you know, you will see our flower fixture, or wall flower as represented by A. J. Nelson.

Who is it in here that folds powders so neatly? Why, Plahnik, of course, who got his training on Milwaukee Ave the great pharmaceutical thoroughfare.

Another day we spent on the lower floor with Professor Buckner in General and Analytical Chemistry.

When he starts in, the class is as quiet as a mouse, not a foot moves throughout the hour.

His lectures are upon theories and facts that keeps one's head buzzing as if it was full of tacks. Then into the laboratory we go, here we meet Professor Clark, who is always happy as a lark, who solves the unknown equations, that have caused so much distress and pain.

It is not the work that you have done, nor the results you have gained, but the time you have lost, that you base your factor on, in Analytical terms.

After all of this punishment, there comes one thing yet, Histology which we must not forget. Here Professor Day is the master of the day. This branch is the most interesting of all, even if you were real sleepy, you couldn't possibly go to sleep.

Now for drawing is an art, at which some shine, while others can't draw even a straight line, for instance there is Kingery who is certainly wise, if he don't watch out he'll draw the prize.

But after all the work is done
 And there comes the setting of the sun
 We surely will not regret what we have done.

NEW YORK BOARD QUESTIONS.

At the examination conducted by the New York Board of Pharmacy, February 21st, 1906, the following questions were asked of candidates for license as pharmacists:

EXAMINATION FOR PHARMACISTS.

Practical Pharmacy.

Compound the following:

1. R Red Mercuric Iodide..... .03 Gm.
 Potassium Iodide..... 1.00 Gm.
 Powdered Sugar..... 1.50 Gm.

Mix Intimately.

Make into six (6) powders.

Sign: To be taken in water.

2. R Potassium Iodide..... 2.00 Gm.
 Potassium Carbonate..... .12 Gm.
 Water..... 2.00 Gm.
 Benzoinated Lard..... 16.00 Gm.

Mix and make an ointment.

Sign: External use.

3. R Rectified Oil of Turpentine..... 15.00 Cc.
 Expressed Oil of Almond 5.00 Cc.
 Syrup..... 25.00 Cc.
 Powdered Acacia..... 15.00 Gm.
 Water enough to make. 100.00 Cc.

Mix.

Make an Emulsion.

The *first three* questions relate to the *Practical Exercises*.

1. (a) Give quantity of Red Mercuric Iodide, expressed in Grains, contained in each powder. (b) Will the addition of water, as per directions, result in a clear solution, or will any portion of the powder remain undissolved? Give reason for your answer.

2 (a) In what manner does this ointment differ from that recognized by the U. S. P., 1890? (b) State quantity of each constituent required to make one commercial pound of the ointment.

3. (a) Give approximate quantity of Oil of Turpentine required to make this emulsion. (b) Why is 'expressed Oil of Almond used?

4. Define the term "Specific Gravity." How would you determine the gravity of a liquid? If one fluid ounce of a given liquid is found to weigh 425 grains, what would be its gravity?

5. Define the following terms: (a) Fusion, (b) Calcination, (c) Sublimation. Name an official example in each case.

6. Give official method for the preparation of Tincture of Iodine. State per cent. of iodine it should contain.

7. Medicated Waters: Give general outline of the official methods of preparation. Name an official water containing: (a) Alcohol, (b) a volatile oil, (c) a gas.

8. Name three liquors in the preparation of which the U. S. P., directs the use of Nitric Acid, What purpose does the addition of this acid serve?

9. Solution of Magnesium Citrate: Give official method of preparation. State why, upon standing, precipitation sometimes occurs. What is the nature of such precipitation? How would you prevent its formation?

10. Cataplasm of Kaolin: Name its constituents. Give general outline of method of preparation. Define the term "Cataplasm."

11. One part of Potassium Iodide, at 25° C., is soluble in 0.7 parts of water. State: (a) How many grains of the salt one avoirdupois pound of water will dissolve. (b) What per cent. of salt the resulting solution will contain.

For interpretation, comment and criticism.

12. R Sodii Bicarb.....	℥i
Chloralis	℥ii
Syrupi.....	℥ss
Aquae, q. s. ad.....	℥iii

Misce.

Sig. ℥i every three hours.

13. R Antipyrini.....	Gr. xxx
Hydrarg. Subchlor.....	Gr. xx
Sacchari Pulv.....	℥i

Misce ft. pulv No. x.

Sig. One as directed.

14. R Strych. Sulph.....Gr. xvi
 Tinct. Digitalis.....3vi
 Spir. Ammond. Arom.....3iv
 Elixir Simp.....3iv

Misce.

Sig. $\bar{\text{t}}$ i. d. before meals.

15. R Digitalini.....30 Gm.
 Atropinae Sulph......02 Gm.
 Sacchari Lact.....2.00 Gm.

Misc. ft. pulv. No. vi.

Sig. One every four hours.

PHARMACEUTICAL CHEMISTRY.

Six specimens are submitted for identification.

Concerning them state the following:

(a) Pharmacopoeial title. (b) Common name.

This information is to be written on a special blank furnished for that purpose.

The answers to the following are to be written in the book furnished.

1. Oleum Sinapis Volatile: (a) Describe method of obtaining. (b) Mention chemical name of active constituent.

2. Liquor Ferri et Ammonii Acetatis: (a) Give the common name. (b) Describe the two principle changes in the formula in the Pharmacopoeia 1900 from 1890.

3. Oleatum Hydrargyri: (a) name the salt of mercury used in making. (b) What precaution must be observed during the process of making.

4. Vinum Ferri Amarum: (a) To what is its bitterness owing? (b) What is the white wine which is directed in the formula?

5. Sapo Mollis: (a) Name the constituents. (b) What are the elements that determine whether a soap will be hard or soft?

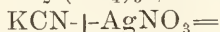
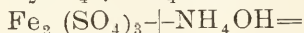
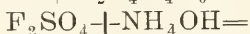
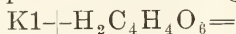
6. Linseed Meal: (a) what per cent. of oil should it contain? (b) Give assay process for estimating the amount of oil.

7. State the theoretical number of pounds which should be obtained from the conversion of 100 pounds Sodium Bi-

carbonate into Sodium Carbonate. $\text{Na}=23$, $\text{H}=1$, $\text{C}=12$, $\text{O}=16$.

8. In $\text{Mg SO}_4 \cdot 7\text{H}_2\text{O}$ what per cent. of the whole formula is water? $\text{Mg}=40$, $\text{S}=32$, $\text{O}=16$, $\text{H}=1$.

9. Complete the following equations:



10. Show by chemical equation the two reactions, occurring in the process of manufacturing Sulphur Precipitatum.

11. (a) What are some the trade names for Hexamethylenamine? (b) Divide the name into its various parts and tell what each means.

12. Mention a Volatile Oil and give the assay process to determine its strength.

13. Describe process followed in making Liquor Sodae Chlorinatae.

MATERIA MEDICA, BOTANY AND PHARMACOGNOSY.

1. Colchicum: Give Pharmacopoeial title, part or parts employed, active or chief constituents.

2. Strophanthus: Give Pharmacopoeial title, part or parts employed, active or chief constituents.

3. Jaborandi: Give Pharmacopoeial title, part or parts employed, active or chief constituents.

4. Yellow Jasmine: Give Pharmacopoeial title, part or parts employed, active or chief constituents.

5. Krameria: Give Pharmacopoeial title, part or parts employed, active or chief constituents.

6. Aconite: Give Pharmacopoeial title, part or parts employed, active or chief constituents.

7. Define the following terms: (a) Soporific, (b) Neurotic, (c) Styptic, (d) Antipyretic, (e) Emmenagogue.

8. Give the official parts used of the following: (a) Hedeoma, (b) Witch-hazel, (c) Scammony, (d) Matico, (e) Hydrastis.

9. Give the U. S. P. alkaloidal strength of the following: (a) Aconitum, (b) Opium, (c) Opium Pulvis.

10. Give: (a) Two official preparations of cubebs. (b) Three official preparations of stramonium.

11. Name: (a) An official oil from the animal kingdom. (b) An official trituration. (c) Three official alkaloids.

12. Give source of the following: (a) Iodum, (b) Camphor, (c) Adeps, (d) Moschus, (e) Eucalyptol.

13. What are the active principles of the following: (a) Hydrastis, (b) Goa Powder, (c) Piper, (d) Mentha Piperita, (e) Belladonna.

14. Name: (a) An official tuber, (b) An official leaf, (c) An official bark, (d) An official bulb, (e) An official flowering-top.

15. Name: An official glycerite, (b) An official mucilage, (c) An official powder, (d) An official vegetable acid, (e) An official animal acid.

16. Give the botanical name, geographical source and medicinal principles of Peruvian bark.

TOXICOLOGY AND DOSOLOGY.

1. Define Demulcent, Chemical Antidote, Physiological Antidote, Lethal Dose.

2. What emergency treatment would you employ in poisoning by an unknown substance? Give reason for each antidote you would use.

3. Name a chemical antidote for Morphine, Strychnine, Arsenic.

4. The adult dose of a drug is 12 grains. What would be the proper dose of the same for a child, 3, 6, 8, 12 years old? Give your answers in grains.

5. Give a chemical test of identity for Strychnine, Morphine, Mercuric Chloride, Iodine.

6. Name a physiological antidote for Morphine, Digitalin, Aconitine, Cocaine.

7. Give the symptoms and emergency treatment in poisoning by Carbolic Acid.

8. A four ounce mixture contained one-half grain of Strychnine Sulphate. How much of this alkaloid would be contained in each teaspoonful, dessertspoonful or tablespoonful of this mixture?

9. Give the emergency treatment you would employ in poisoning by Corrosive Sublimate; by Chloral.

10. Name 3 mineral emetics; 3 vegetable emetics.

N. B. In giving the doses, write the name of the drug and give the minimum and maximum dose, unless otherwise ordered.

11. What is the dose of Arsenous Acid? Salicylic Acid? Benzoic Acid? Diluted Hydrocyanic Acid?

12. What is the dose of Bismuth Subnitrate? Potassium Bromide? Corrosive Sublimate? Salol?

13. What is the dose of Extract of Belladonna? Extract of Opium? Fluidextract of Ergot? Fluidextract of Valerian?

14. What is the dose of Aconitine? Aloin? Digitalin? Cocaine?

15. Give the dose Dover's Powder; Tully's Powder; Brown Mixture; Basham's Mixture.

EXAMINATION FOR DRUGGISTS.

The questions which follow were used in the examination of candidates for druggists' licenses:

PRACTICAL PHARMACY.

Compound the following:

1. R Red Mercuric Iodide..... .03 Gm
Potassium Iodide..... .100 Gm
Powdered Sugar..... .1.50 Gm

Mix intimately.

Make into six powders.

Sign: To be taken in water.

2. R Potassium Iodide..... .2.00 Gm
Potassium Carbonate..... .12 Gm
Water..... .2.00 Gm
Benzoinated Lard..... .16.00 Gm

Mix and make an ointment.

Sign: External use.

3. R Potassium Chlorate..... .50 Gm
Hydrochloric Acid..... .1.00 Cc
Water, enough to make..... .100.00 Cc

Mix.

The first three questions relate to the Practical Exercises.

1. (a) Give quantity of Red Mercuric Iodide, expressed in grains, contained in each powder. (b) Will the addition of water, as per directions, result in a clear solution, or will any portion of the powder remain undissolved? Give reason for your answer.

2. (a) In what manner does this ointment differ from that recognized by the U. S. P., 1890? (b) State quantity of each constituent required to make one commercial pound of the ointment.

3. (a) Give details of manner of preparation. (b) Name the principal constituents of the finished product.

4. Define the term "Specific Gravity." How would you determine the gravity of a liquid? If one fluid ounce of a given liquid was found to weigh 425 grains, what would be its gravity?

5. Define the following terms: (a) Fusion, (b) Calcination, (c) Sublimation. Name an official example in each case.

6. Give official method for the preparation of Tincture of Iodine.

7. Medicated waters: Give general outline of the official methods of preparation. Name an official water containing: (a) Alcohol, (b) A volatile oil, (c) A gas.

8. Name three liquors in the manufacture of which the U. S. P. directs the use of Nitric Acid. What purpose does the addition of this acid serve?

FOR INTERPRETATION, COMMENT AND CRITICISM.

9. R Sodii Bicarb..... $\bar{5}$ i
 Chloralis..... $\bar{5}$ ii
 Syrupi..... $\bar{3}$ ss
 Aquae, q. s. ad..... $\bar{3}$ iii
 Misce.
 Sig. $\bar{5}$ i every three hours.
10. R Strych. Sulph.....Gr. xvi
 Tinct. Digitalis..... $\bar{5}$ vi
 Spir. Ammon. Arom..... $\bar{5}$ iv
 Elixir Simp..... $\bar{3}$ iv
 Misce.
 Sig. t. i. d. before meals.

PHARMACEUTICAL CHEMISTRY.

Four specimens are submitted for identification.

Concerning them state the following:

a Pharmacopœial title, *b* Common name.

This information is to be written on a special blank furnished for that purpose.

The answers to the following are to be written in the book furnished:

1. Dovers Powder: *a* Give official name. *b* Mention the per cent. of each of its active constituents.

2. Mercury: *a* What per cent. of Mercury does Blue Mass contain? *b* How much does Blue Ointment contain?

3. Lunar Caustic: *a* Of what does this consist? *b* What is Mitigated Caustic?

4. Linseed Meal: *a* How would you assay Linseed Meal to determine the amount of oil it contained? *b* How much should it contain?

5. Give the common names of *a* H_2SO_4 , *b* NH_4Cl , *c* AgNO_3 , *d* NaHCO_3

6. Define and give example of each *a* Acid, *b* Alkaloid, *c* Oleoresin, *d* Essential Oil.

7. Mention the base used in making *a* Camphor Liniment, *(b)* Chloroform Liniment, *(c)* Oxide of Zinc Ointment, *(d)* Tar Ointment.

8. *(a)* What preparation of Squill is used in making syrup of Squill? *(b)* Mention the one used in making Syrup Squill Compound.

9. *(a)* How much Ethyl Nitrite should spirit of Nitrous Ether contain? *(b)* What precautions should be observed in keeping it?

MATERIA MEDICA, BOTANY AND PHARMACOGNOSY.

1. Black Cohosh: Give botanical name, part or parts employed, active or chief constituent.

2. Valerian: Give botanical name, part or parts employed, active or chief constituent.

3. Henbane: Give botanical name, part or parts employed, active or chief constituent.

4. Wild Cherry: Give botanical name, part or parts employed, active or chief constituent.

5. Define: (a) Rhizome, (b) Tuber, (c) Bulb, (d) Cortex, (e) Folia.

6. Give the common names of the following: (a) Cinchona, (b) Cimicifuga, (c) Leptandra, (d) Salvia, (e) Sanguinaria.

7. Define: (a) Diuretic, (b) Emmenagogue, (c) Narcotic, (d) Styptic, (e) Anthelmintic.

8. Give the active principles of the following: (a) Acouitum, (b) Benzoinum, (c) Pilocarpus, (d) Ipecacuanha, (e) Coca.

9. What are: (a) Triturations, (b) Glycerites, (c) Liquors, (d) Mixtures, (e) Oleoresins.

10. Name: (a) Three official leaves, (b) Two official roots.

TOXICOLOGY AND POSOLOGY.

1. Define Demulcent; Chemical Antidote; Physiological Antidote; Lethal Dose.

2. What emergency treatment would you employ in poisoning by an unknown substance? Give reason for each antidote you would use.

3. The adult dose of a drug is 12 grains. What would be the proper dose of the same for a child, 3, 6, 8, 12 years old? Give your answers in grains.

4. Give the symptoms and emergency treatment in poisoning by Carbolie Acid.

5. A four ounce mixture contained one-half grain of Strychnine Sulphate. How much of this alkaloid would be contained in each tea-spoonful, dessertspoonful or table-spoonful of this mixture?

6. Name three mineral emetics. 2 vegetable emetics.

N. B.—In giving the doses, write the name of the drug and give the minimum and maximum dose, unless otherwise ordered.

7. What is the dose of Arsenious Acid? Salicylic Acid? Benzoic Acid? Diluted hydrocyanic Acid?

8. What is the dose of Bismuth Subnitrate? Potassium Bromide? Corrosive Sublimate? Salol?

9. What is the dose of Extract of Belladonna? Extract of Opium? Fluidextract of Ergot? Fluidextract of Valerian?

10. Give the dose Dover's Powder; Tully's Powder; Brown Mixture; Basham's Mixture.

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MEDICAL DEPARTMENT OF THE
UNIVERSITY OF ILLINOIS,
CHICAGO.

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NO 12.

CERVIX UTERI—ITS DISEASES AND TREATMENT.

Dr. CHARLES NELSON BALLARD.

Adjunct Prof. of Gynecology and Clinical Gynecology of University of Illinois; Assistant Surgeon to Marion Sims Hospital, Chicago.

I wish to beg your pardon for presenting such an old commonplace subject, but some of these old subjects are like much biblical literature, the more they are investigated the newer they seem.

We may say old and commonplace, yet it is the point of origin of so much misery and suffering to womankind that I feel as if a short consideration of only a few of its different phases may awake some thoughts that will be of benefit. A very slight trauma or infection in this little organ, or part of an organ, may cause very grave pathology in a remote portion of the pelvis or abdominal cavity, and reflexly affect the central nervous system sufficient to cause neurasthenia, hysteria, melancholia, mania or even insanity.

It is the narrow path through which the micro-organism must travel to reach the more deeply seated pelvic organs. It might be said to be the drainage tube for the debris which accumulates in and is thrown off from the more internal organs. It must be able to resist the incoming and outgoing infective material or succumb to the virulency of the poison and become pathological. A slight trauma of this portion of an organ is only too often passed by uno-

ticed. This accident may show but slight symptoms at first, but is well worth our very closest scrutiny so as to protect our patient from the more grave conditions which so often come from this supposedly slight damage.

The cervix is developed from Mueller's Filiments. By fatty degeneration and absorption ducts are formed, from these filiments which finally coalesce a single septum is formed between them, two cavities are produced, separated by one wall. This septum is in turn soon absorbed and a single canal is the final result. A part of the lower portion of this canal forms the cervical canal. This also occurs before the 20th week of foetal life.

The walls become thickened, the *arbæ vita* arrangement of the mucus membrane develops, and the shape changes till at the time of birth the cervix is larger than the fundus.

There is a gradual developement of the fundus with but little change in the cervix until about the time of second dentition, when the fundus in dimensions more nearly approaches that of the cervix. At this time there takes place a gradual descent of the organ into the vagina or invagination of the cervix.

From this time to puberty the fundus develops more rapidly than the cervix and normal proportions now exist.

If there should occur an accident or disease sufficient to interfere with the normal process of development then we have the results of such manifested in the different malformations as double canal—stenosis and atresia.

The cervix has three coats separated by areolar and connective tissue. The outer coat is a mucus covering reflected from the vagina covering the entire vaginal aspect of the cervix, ending abruptly at the external os, where the pavement epithelium covering the vaginal mucus membrane ceases and is replaced by cylindrical ciliated epithelium covering the mucus membrane lining the canal.

The middle coat is principally muscular but differs very materially from that of the body of the uterus in that there

is more connective tissue interwoven with the muscle fibers, making the cervix firmer than the body.

There are fewer blood vessels found in the cervix than in the body, hence the paler color. The mucus coat is thicker than in the body and is thrown into folds known as *plica palmatae* which are most plainly marked in the virgin and gradually grow less in the multipara.

The mucosa here is separated from the muscular coat by a submucosa, thus differing from the arrangement in the body where there is no intervening tissue between the mucosa and muscle. This membrane differs from the lymphoid structure of the body also in having a firm fibrous basement membrane surmounted by cylindrical epithelial cells. It being only the summit of the rugae that support the cilia, the intervening surfaces not being ciliated.

The glands of the cervix are of the racemose variety, having branching ducts lined with non-ciliated cuboid epithelial cells, resting upon a structureless basement membrane. The orifices of the ducts of these glands open upon the free surface and between the folds secreting a clear viscid alkaline mucus. These openings become occluded during the process of inflammation and confine the secretions in the ducts, forming retention cysts. This pathological condition was first described by Naboth, hence the name Nabothian glands are applied to them. The ducts thus closed show external to the cervical canal as papules and pustules. Their feel to the vaginal finger is that of small shot covered by a thin membrane.

The orifices are forced out of the lumen of the canal by some trauma to the cervix or eversion of the mucus lining.

The glands are deeply seated in the cervical tissue and if infected implicate not only the mucosa lining the canal, but also the sub-mucosa, muscular tissue and even extending to the external mucosa covering the vaginal aspect of the cervix.

If retention cysts exist in this deeper seated tissue the pressure exerted by the retained fluid must find exit in the direction of the cervical canal and again toward the exter-

nal surface where there are to be seen small pea sized elevations on the outer surface of the cervix. These simulate very much adeno carcinoma of the glands of the cervix.

The vaginal finger is unable to differentiate between these two conditions, neither will inspection by the aid of a specula be sufficient. The differential diagnosis is made only by puncture and the assistance of the microscope.

The female genital tract is considered by most authors to be free from bacteria from the external os upward, while the vagina constantly swarms with all kinds of bacteria. Many bacteriologists have found micro-organisms in the healthy cervical canal, but closer observation of the mucus in which the material was secured for examination showed that proper care had not been taken to remove from the specimen that small plug of mucus which is usually found protruding from the external os into the vagina. This small drop of secretion becomes vaginal and is covered with the vaginal secretions and the bacteria contained therein and hence in this situation should not properly be termed cervical secretions. This should be carefully scraped away before the examination is made in order to obtain accurate results.

Others have made examinations of the material found upon the everted surfaces of a lacerated cervix. This tissue becomes vaginal as soon as it is lacerated and rolled out, where it is bathed with the vaginal secretions, hence bacteria are found upon these surfaces which are foreign to the cervix and are only at home in the vagina.

This everted cervix occupies an abnormal position, is bathed in secretions foreign to cervical tissue and hence while this condition lasts will be pathological

A comparative examination of the secretions found upon the everted cervical tissue and that found within the canal would readily demonstrate the change produced by the different locations. Bacteriological research then, if properly carried out, should teach us that to disinfect the cervical canal before labor is a useless and unnecessary procedure even if infected by gonococci.

In the genital canal the os externum forms the dividing line between germ-containing and germ-free portion. Yet it offers but little resistance to the introduction of the gonococci. The presence of the gonococci in the canal is an almost certain indication that there are no other bacteria present. It seems to produce an immunity to the introduction of other micro-organisms.

It has been but a very short time since it was deemed necessary to cauterize the stump of the cervix and very carefully use drainage through the canal for fear of infection following hysterectomy for fibromata of the fundus uteri. This is considered unnecessary now since we know that the canal, if not diseased, is free from bacteria.

The classification of cervical or uterine diseases is quite difficult, and we find that every author attempts to make some new division. This is due somewhat to the different physiological changes that take place during menstruation.

The cervical (m m) as well as that of the body undergoes a periodic hypertrophy and degeneration, making it difficult to differentiate between the physiologic condition and early pathologic process. Chronic cervical catarrh or endocervicitis affects not only the mucus membrane but the entire cervix. The appearance in the nulliparous and multiparous woman differ.

In the former small cell infiltration and enlargement of the blood vessels almost to vericosity occur, beneath the epithelium is found granulation tissue; the squamous epithelium undergoes hypertrophic changes from the increased blood supply. Papilla are formed, covered with epithelium, red in color and present the appearance of erosions. Should this process continue the granulation in the cervical canal would, owing to their increased size, be crowded out of the external os, producing an eversion of the cervical mucus membrane, appearing as a reddened ring about the os. Elongation may take place due to the hypertrophy, sufficient to simulate prolapsus, commonly termed pseudo-prolapsus.

In the latter where the cervix has been lacerated, the

lips will often be widely separated and gaping. The surface presents irregular granular patches which protrude beyond the external os. This condition was once thought to be ulceration, but closer examination shows the apparently raw surface to be covered with epithelium. The increased blood supply to the superficial granular surface increases the size of the granulations, they are forced out of the deeper portion of the canal, and present the appearance of fungoid growths. Gradually by extension the mucous membrane lining the glands becomes affected and they in turn are crowded out of the os and show external to it even sometimes beneath the squamous covering. At this stage of inflammation begins cystic degeneration.

Inflammation of the cervix is usually and we might say always produced by infection. Inflammation of the intra cervical mucosa may occur as a primary or secondary infection. The former may be due to the gonococci directly implanted upon the cervical mucosa or from septic infection from unclean instruments. Secondary infection results from extension upward from the vagina or downward from the uterus, the latter being very rare. The intimate relation of the vagina and cervix exposes the latter to all forms of bacteria which are constantly found in the vagina. As long as the cervical mucosa is absolutely normal and free from disease it is able to resist the neighboring bacteria, but let some of the predisposing causes, such as trauma, displacements of the uterus, presence of neoplasms in or about the cervix, rheumatic, gouty or tubercular diathesis, exist here or in fact any pathology which lowers the vitality or resisting power of the tissue and the organisms will multiply rapidly and become pathogenic, and when once implanted within the canal they are difficult to conquer, for they occupy the glandular crypts and remain there in a slowly active or latent state.

As illustration; if a micro-organism of a certain virulence comes in contact with the normal cervical tissue there may be no demonstration of its presence, for it is destroyed by the secretions provided by nature to protect the tissue

thus invaded, but let the vitality be lowered by any of the predisposing causes mentioned and the secretions are altered and are unable to cope with the virulency of the invading micro-organisms, so nature defends herself by establishing a retaining wall, to limit the extent of the damage. Blood stasis, cell proliferation and exudation occurs. Degeneration and destruction of tissue follow if the barrier formed by nature is overcome by the infective material.

Such an effort causes pain, a burning sensation, elevation of the temperature, extreme sensitiveness, swelling and a more or less constitutional reaction. The process may terminate in resolution or go on to destruction of tissue, depending entirely upon the power of resistance of the tissue being invaded and the virulency of the invading material. This may remain as a chronic inflammation of the cervix even localized therein, unless forced through the constricted internal os by the careless and thoughtless use of some instrument at this time.

The most common exciting causes of endocervicitis are gonorrhea and sepsis.

The first is due to the gonococci which is usually implanted directly upon the cervical mucosa instead of finding its way upward from the vagina, for the vagina is the most difficult place for the gonococci to flourish, owing to the resistant power of the vaginal epithelium against the invasion of the pathogenic micro-organisms. The presence of the gonococci soon causes intense congestion, cell proliferation, destruction and exfoliation of the mucous membrane lining the canal. The discharge early is profuse and purulent in character. The entire cervix becomes red, swollen and tender. The gonococci are reproduced much more rapidly in this canal than in the fundus or vagina, hence greater damage is done to the tissue here than elsewhere except in the urethra and Fallopian tubes. Our first object in the treatment of this disease so located is to use every means to further natural effort to raise the vitality of the tissue and second to destroy the gonococci.

In accomplishing the first subject the patient's general

health should be attended to, rest in bed insisted upon, diet and excretions should be regulated. Alkaline waters, saline laxatives and tonics should be administered.

The second object is accomplished by first sterilizing the vagina and scraping out the mucus from the canal. Then applying 50 per cent. protargol solution on gauze pack or full strength carbolic acid to the cervical canal on applicator every second day; assisted by the use of a cotton tampon saturated with a four per cent. solution of protargol applied directly to the end of the cervix daily. Vaginal douches of bichloride one to 2000 followed by sterile douche. This treatment should be continued till the discharge improves in character.

The second is produced by the introduction into the cervical canal of some septic micro-organism during intra uterine office treatment or carelessness after abortion or parturition. If thus introduced then the infection foci should be found and the continued absorption prevented. The treatment of the existing condition would be in combination with that of the more internal organs, rest, salines and hot douches as well as sytemic treatment.

The appearance of the cervix early in an inflammatory condition is redness and swelling, later a bluish color, showing a venous congestion due to pressure produced by a change of tissue from that of normal to that of an excess of connective tissue, this process continues till by constant pressure many blood vessels are obliterated and we have an anaemic appearance of the cervix due to the abnormal amount of connective tissue taking the place of muscle fibers and the destruction of blood vessels.

In the stage of venous congestion the cervix has a boggy feel to the vaginal finger. In the anemic stage it is very dense and cuts like fibrous tissue.

These conditions may have originated from trauma as a predisposing cause or from infection as a primary cause. If due to trauma, as a laceration then we have a two-fold condition to deal with, actual injury as well as infection. The

trauma lessens the vitality of the parts and consequently the micro-organisms act more severely.

The first pronounced symptom to follow as a result of all this pathology is the characteristic profuse cervical discharge, clear, thick, tenacious, like the white of an egg. If pus cells are present then the consistency is that of cream. If the infection is severe enough to cause exfoliation of the epithelium then it will be tinged with blood. If mixed with the secretions from the body of the uterus then a thinner, whiter discharge will be noticed.

Digital examination shows a slightly swollen cervix with a rim of erosions surrounding the patulous external os in the uncomplicated cases, while in mitipara there is usually a laceration which masks the characteristic signs, and the pathology dependent upon the traumatism must be recognized by the examining finger. By the aid of a speculum the characteristic symptoms enumerated above can be noted. The prognosis is unfavorable when the infection is due to the gonococci or sepsis on account of its tendency to extend to other organs but if due to constitutional or congestive causes then it is very favorable.

All forms of endocervicitis are more or less chronic in character and hence do not progress toward a spontaneous recovery but requires more or less active treatment. In the treatment of simple catarrhal forms of endocervicitis surgical cleanliness should be carefully observed. The external genitals and vagina should be thoroughly cleansed with soap and water followed by irrigation with Bichloride 1-2000, the latter solution being removed by irrigating with sterile water. Care must be taken to remove the small plug of mucus protruding from the external os before the curet introduced into the canal.

Remove the mucus within the canal with the curet scraping hard enough to remove the most prominent part of the unhealthy granulations. The pressure from the curet will be sufficient to remove much of the pent-up secretion in the cervical glands. After the canal is thoroughly freed from the secretions it is then ready for the applications. If

only a stimulation is desired then apply solution as silver nitrate ten grains to the ounce. When the infection is more virulent and the destruction of more granulation tissue is necessary then use iodine and carbolic acid 50 per cent. or pure carbolic acid, being careful to protect the external aspect of the cervix and the vagina by packing gauze about the cervix. The canal may be packed with a small strip of gauze moistened with a 50 per cent. solution of ichthyol and glycerin, allowing same to remain about six hours. If in a very chronic state paint the vaginal vault and cervix with iodine. A cotton-wool tampon moistened with ichthyol and glycerin 25 per cent. or boroglycerid, packed beneath and around the cervix will materially assist in supporting the entire uterus and thus establish normal circulation through the whole organ as well as the cervix. A certain amount of the glycerin will be absorbed and displaces the inflammatory exudate in the deeper tissue and thus help in this way in establishing a normal condition in the cervix.

The pathological change which usually occurs following a bilateral laceration is eversion of the lips of the cervix in consequence of which it is exposed to swarms of bacteria in the vagina, and not only irritated by them, but by coming in contact with the walls of the vagina. The glands become infected and their ducts occluded as a result of the inflammatory process, closing the orifices of the ducts. In a few days granulation tissue forms making a suitable place for deposit of the many forms of micro-organisms and their products and keeping up by their mere presence a constant irritation as well as a slow infection, which continues to travel upward till not only the cervical, but the utricular glands of the fundus, the tubal membrane and finally the surface of the ovary are all inflamed and all of this from the probably unnoticed, insignificant laceration of the cervix.

The immediate effect of this trauma is shown in the more tedious recovery following confinement, inclination to remain in bed longer than usual, slight temperature, loss of appetite general malaise, more profuse sanguinous discharge, con-

tinuing over a longer period. Immediate repair has been advocated by some eminent authors and has been comparatively successful in the hands of the promoter, but has not been generally successful as handled by others.

It would seem theoretically a good practice but clinically impractical. The tissues in such cases are so disfigured and contused that accurate coaption would seem impossible. The condition of the patient, the presence of the sanguinary element, would make it an impractical procedure in most cases at least. Repair should be done within two months after laceration if we would prevent the more remote symptoms. At this time the scar tissue is formed, and is as free from infection, swelling and tenderness as it will ever be. If repair is not done till late, after cystic degeneration has taken place, change of the normal tissue in the end of the cervix has occurred by the disappearance of muscle fibers and their being replaced or crowded out by connective tissue. By this change in tissue many blood vessels are occluded or destroyed by pressure.

If infection occurs in the cysts at this time distension takes place and rupture and discharge of its contents, producing follicular erosion, involving all the tissues of the cervix. A profuse leukorrheal discharge is noticed at this time due to increased glandular secretions and the transudation from the eroded surfaces.

If abscesses are formed from the infection of the glands, and they rupture on the free rolled out granular surface of a lacerated cervix it looks very much like an ulcer, but closer observation shows that ulceration pure and simple, in this locality is very rare.

If a small spot on this granular surface begins to be destroyed or broken down, this should make us very suspicious of malignancy. By inspection and palpation we would be able to make a rather safe diagnosis, as follows. If the surface is covered with granulation tissue, there is a certain regularity or smoothness to the granulations.

If there occurs a malignant spot, it may be detected by a firmness about its edges, slight elevation with induration

about it and a crater-like depression within. This substance within the edges is of a dull, dead color and if much disturbed bleeds easily. This together with the use of the microscope gives us a positive diagnosis.

Much responsibility rests with the physician here, not to neglect a condition of this kind, lest it gets beyond medical or surgical aid. Much better err on the side of an innocent growth than that of a malignant one.

The diagnosis is easily made by the use of the speculum bringing into view the enlargement, erosions, everted cervical canal, glands of Naboth, the tenaceous plug of mucus, etc. Differential diagnosis of inflammation of the cervix and malignant disease within the external os is sometimes difficult. In the former there is uniform enlargement, the tissues are firm but not hard and show no inclination to friability.

In the latter it may be hard at points and indurated from the presence of an infiltrate which is more or less localized. If this malignant condition finds its extension outward through the external os or through the external mucous covering then there will appear the crater-like depression with friable tissue and indurated edges as spoken of above. The prognosis depends upon the general health of the patient, the duration of the disease and the extent of the involvement. It is less favorable when there is a large amount of secretion and apparently but little granular degeneration.

The treatment may be divided into palliative and radical, where we have a chronic condition with cystic degeneration. The former would consist of stimulating the secretions with saline laxatives and the use of tonics; and if there existed cysts, showing themselves in the cervical tissue they should be punctured, curetted and cauterized. Depleting applications, as ichthyol and glycerin 15 per cent to 30 per cent, boroglyceride, etc., with the use of a cotton tampon should be applied to the end of the cervix.

This together with rest and hot vaginal douches once or twice daily will usually suffice in recent cases, but in a

chronic case where cystic degeneration has taken place deep in the cervical tissue, where the cervix is firmer than normal, anæmic in appearance, and if lacerated contains that plug of scar tissue in the angles, then, after the above treatment has been carefully carried out as a preparatory treatment it is found necessary to employ more radical means.

Whatever may have been the cause of the condition it is necessary to remove all of the diseased tissue. If it had been lacerated then we have to deal with the trauma as well as the infection.

It is not considered sufficient now to coaptate the parts that have been separated as was once advocated by that eminent author, Dr. Emmet. This operation, though at the time a great advance over the work that had been done upon the cervix, is now considered almost obsolete for cervixes undergoing cystic degeneration. Since this author opened the way many other operators have striven to accomplish this object by the unique plastic operations devised by them.

Schroeder's operation as a principle, with its many modifications, has done much to perfect a procedure which will remove the pathological tissue in the simplest and easiest possible manner and yet prevent any post-operative sequelæ such as stenosis of the external os, or a too patulous condition of the same.

Tracheloplasty, devised and described by Newman with a few modifications seems to me to be the proper principle and the ideal procedure for the above condition. This principle followed closely in our operations on the cervix gives a comparatively easy procedure to remove all the diseased tissue and yet be able to coaptate the denuded surfaces so as to prevent any blind spaces, and yet bring together the mucous membrane covering the vaginal portion of the cervix and that lining the canal in such a way as to allow no granulation tissue to form during the process of repair. It gives us a conical cervix, a sufficiently patulous os, and one free from pathological tissue, the object necessary to be accomplished in any operation upon the cervix.

THE FAMILY PHYSICIAN IS THE CHILDREN'S SPECIALIST.*

BY T. B. HART, M. D., P. & S. '94, Ratan, N. M.

Since the beginning of the history of medicine and surgery, men have been writing pro and con on the subject of specialties. Much has been written, (and more has been said) on the subject of the "family physician as a specialist," his usefulness and willingness to try to do his part in lessening the sum total of human suffering, have been applauded and defended by those that were grateful to him. His shortcomings, though they be few, are too often multiplied and intensified by the fertile brain of a colleague, or the slanderous tongue of a layman. The public already know too much about the lack of harmony in the profession. However, it is not my purpose to discuss his worldly rating, or his professional standing; my one and only purpose in this paper is to emphasize the necessity of a higher standard of duty in his professional and social relations to the vast army of children, of which there are more than sixty millions, or quite three fourths of the population of the country. It will be well for you to always remember that their youthful likes and dislikes will control your destiny in many a family for a generation to come.

I warn you that no lad, however small or insignificant, likes the name "bub,"—no father admires your manners more for so blunt a familiarity; no lassie, however lowly or poor, likes the name of "sis," and no mother thanks you for such vulgar brevity.

It is a family physician that is called when a new being is born into the world. It is he that is called to treat baby for a simple colic, or to treat it for rachitis, that slow but sure pathological condition due to fat starvation. It is he that is called in early childhood to treat Mary for vaginitis due to pin worms, or, later in life, for chlorosis. It is he that is called to treat Jimmy for ballanitis by performing circumcision, or later to treat him for chorea and its dangerous

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handmaid, inflammatory rheumatism. It is he who closes the eyes of the old grandfather in eternal sleep in the twilight of closing day in contact with these little sufferers by night and by day, why should not the physician become as skillful as he who works by night and by day in the field of general surgery?

The fathers of the art of healing—for it was an art with them during the twelve hundred years of transition in the history of medicine—did not work along scientific lines that they might excel others in the relief of suffering, but ingeniously strove to excel in original and unequalled dogmas and theories; and it made no difference how absurd or short-lived the fallacy, there was always a following.

One can easily imagine that the followers and believers of these ancient apostles of dogmas and superstitions were not unlike the layman of today, ever ready to follow any fallacy advocated by the Stills, Weltmers and Eddys. Had Pythagoras lived today he could easily enough be termed a specialist, as he went from house to house visiting patients in contradistinction to Aesculapius, who treated his patients in luxurious temples beautified with golden images and idols.

Homeopathy was a specialty in contradistinction to the practice of Rasori, who gave 60 grains of gamboge in 24 hours. It is not impossible that therapeutic nihilism was a specialty in contradistinction to both.

Surgery in recent years has made wonderful strides in the direction of scientific perfection. The same is also true of medicine. But both are being so carefully and technically subdivided into specialties, that one in need of the best surgical or medical skill will have to hunt, with considerable discrimination, just the kind of surgeon or medical practitioner best equipped for a particular case.

One would think that, as a result of such specialism, the family physician would soon pass away, and that he is no longer needed.

The family physician is a personality in every community that will stay as long as the village preacher and the county

school teacher. Were he to devote as the true and experienced specialist, the recently graduated, who had only four years of college and clinics, and no experience, except under tutors, would find little to do. Much of the skill and knowledge heretofore possessed by specialists is becoming common property of the general practitioner.

Some cases need the co-operation and council of some other physician, and in making a selection of a consultant you naturally ask for someone whom you believe to be better qualified along certain lines than others. Get them, but keep the case under your own watchful care, unless the case presents undisputed reasons for turning it to other hands. If you turn all uterine cases over to the gynecologist, all your nose cases to the otologist; all your skin cases to the dermatologist, all your bow-legs and knock-knees to orthopedists, and all mental derangements to alienists, and a few other cases to the hospitals, you will soon have nothing to do but to direct this patient to one place and that to another, and, by doing this, you will soon lose your identity as a physician, and soon become generally known as a kind of guide post pointing out the way to this hospital or that specialist.

He must do a reasonable amount of work in surgery. Is there any reason why he should not skillfully treat vaginitis and cervical endometritis, and not the gynecologist? Is there any reason why he should not amputate hypertrophied tonsils, and not the laryngologist? Is there any reason why he should treat blenorrhagia and syphilis, and not the syphilologist? And so on with many more of the ailments heretofore referred to specialists.

Many times the physician in fighting the battles against death all alone longs for some one to assist and help, in a measure, to bear the responsibility of impending death. To whom does he turn? probably to a specialist, if one can be had, but oftener to a fellow family practitioner. Every practitioner should familiarize himself with the comparatively few diseases to which childhood is heir. No physician should cast a shadow of gloom over the home or arouse a feeling of

doubt as to his abilities by saying to the anxious mother that; "It is difficult or impossible to say just what or where the trouble is in a sick child." If any of you ever feel that way remember that "silence is golden."

Concerning a higher standard of duty in our relations to sick children require more medical instruction than has been, or ever will be given in the medical college.

Perhaps it may require a little more mental training so that the process of reasoning we may readily understand the manifestations of disease in those who do not speak an articulate language. Perhaps it may require a better knowledge of therapeutic agencies and a better knowledge of the chemistry of food stuffs, or, perhaps, a little more pains taken in hygienic technique. Assuming that one is well qualified in all the foregoing qualifications there is much lacking before he can hope for real success.

A higher standard of duty requires tact, that ready power of expression and doing, which is required by the conditions that exist in each and every case; for disease in childhood invariably presents a symptomatology peculiar to the child, and not a symptomatology peculiar to the disease. As an example, I need only to call your attention to the errors that have been made in calling acute congestive pneumonia, brain fever in children with hypersensitive nervous systems. A higher standard of duty requires even tempered patience and eternal vigilance. Why not spend as much time at the bedside of a potentate, remuneration not questioned in either case?

A higher standard of duty requires a heart that is tender and sympathetic, a hand that is soothing, a voice that is assuring and expressive of feeling. The greatest men and women that the world has ever known have been of those who could enter appreciatively into the joys and sorrows, the loves and hopes of children: and if we hope to do the most good we, too, must win their love and confidence, moving with and about them in the child world.

Approach your little patients from the psychological side and thereby you may easily be able to determine the physi-

cal defects. You will find this difficult to do, however, with a child whose mother has taught it that the doctor and the bogie man are twin brothers to Satan. When once you win the confidence and love of the child your very presence hushes and makes them unmindful of fatigue and pain—all to the astonishment and joy of the mother.

The hardest part of our work after we are satisfied with the diagnosis, is to educate the mother (for too few times can a trained nurse be had) how to care for the child. How to get her to realize that you are the doctor and must be obeyed, and that she must not do all the things that sympathizing, mischief-making, neighbor women suggest. She must be taught that fresh modified cow's milk is better than shelf-worn baby foods, and that pure water is not a poison.

In the treatment of all the diseases of childhood, I am of the firm opinion that we should exercise a tolerable inactivity in the administration of drugs, and give nature the first chance.

I have quit the use of all cold tars in the treatment of children. I use chloral for spasms per anum, despite the fact that so many doctors are afraid of it. I have no faith in medicated weights, that is to say, any of the kaoline compounds, for deep-seated inflammations. Gargles are worthless, poulticing tubercular glands is dangerous, Castoria is harmful to digestion, saying nothing of the enormous expense of the same. Poultices of mustard, as generally used, are dangerous and useless. The careless use of chloride of potash has done much harm. I might enumerate many more evils that are daily practiced, but space forbids.

I wish to call your attention to a particular duty we, as physicians, owe to the children of school age, and that is to point out a few of the causes of nervous diseases in children under seven years of age, due to faulty schools and faulty habits at home. If we can control these faults, we not only become a specialist in a way, but a public benefactor as well.

In order that we may understand why children are more liable to disease of the nervous system than grown persons,

it will be necessary to call your attention to the anatomy of the brain and cord of a child, and compare it with that of an adult. At birth the ratio is $\frac{1}{8}$; third year $\frac{1}{5}$, and at 14 years $\frac{1}{2}$ to $\frac{1}{2.5}$, or an average of 40 oz. Adults ratio about $\frac{1}{4}$, or an average from 40 to 50 ounces. Spinal cord at birth $\frac{1}{50}$, adults $\frac{1}{15}$. With these differences in the relative size of the brain and cord in children and adults, it is but reasonable to suppose that in the development, in which there are quantitative changes, and qualitative improvements of brain matter, that there should be some nervous disease peculiar to the child. Every accomplishment, whether of mind or body, is brought about with the nervous system, as master and overseer of all changes.

The law of evolution of the nervous system is that the older and more fundamental parts, which subserve the more general functions, are developed first; such as prehension, creeping and standing, and that the last acquired and most necessary and specialized develop last; such as walking, running, tumbling, singing, reasoning, etc. In the evolution of the child, the processes of growth and development may be said to converge in the development of the brain; so much so that every branch of school or home hygiene has a more or less influential bearing on the brain of the school child.

The essential aim of all educational measures, pictures, maps, machines and other appliances, is the development of sane minds. All hygienic measures tend to improve the nervous system, and the child owes its individuality to its nervous system. A neglect of hygienic measures at home or school shows itself first in the boy or girl by some symptom of the nervous organs, and here, too, individuality of the child is injured and may be lost entirely. Then let us not forget that the brain of a child is, in a sense, the whole child, and whatever is done to stimulate healthy development of brain also develops the whole child. At this time in life, from one to fourteen years, apparently trivial causes are enough to produce the most profound disturbances, all because of the instability and hyperirritability of the nerve

cells, and their inability to endure prolonged or continuous over strain from any cause whatever. An example of this instability, hyper-irritability and tendency to early exhaustion may be seen in a child whose heart is almost breaking with grief, changed to one radiant with smiles in less time than it takes to tell it. Another evidence of a pathetic character may be seen in a child jerking with St. Vitus' dance, caused by fright. Or, looking further, another evidence of hyper-irritability and instability is seen in the child who is having convulsions from indigestion, or from the pain incident to the cutting through of a tooth. Another important point to be remembered about these young and tender organs, (brain and nerves), is that grave and permanent results often follow relatively small organic lesions. For illustration a small hemorrhage anywhere in the brain of a child may result in a partial paralysis at the time, but the injury may result in arrest of development of certain parts of the brain and leaves the child a permanent cripple of body or mind, and may be both. A simple illustration may be cited in calling your attention to an apple or rose bud that might be struck by a hailstone in the early months of its development. You all know the apple remains blemished in form and color. The rose becomes an imperfect flower. Let the same accident occur to the same apple when fully developed and the injury, in all probability, would pass unnoticed.

From what has been said it follows that the hygiene of the nervous system is of the utmost importance in infancy and childhood. It is absolutely essential for the healthy development of the nervous system, that all stimulants should be avoided, not only tea, coffee and alcohol, but all undue and unnatural excitement, which in childhood is almost as serious as stimulants. A normal development can only take place in the midst of quiet and peaceful surroundings, with plenty of time for rest and sleep.

I will now speak of a few things that are done and have been done in the schools of this country, that are injurious to the child, and, of necessity injurious to the brain; also to

call your attention to some things that are done at home and sanctioned by parents, that are equally injurious to the child. We should not lose sight of the fact that the life of a child is an active one, so much so that it is frequently asked how they stand it without getting tired. They do get tired, but instinctively take plenty of healthful rest. This freedom of mind and activity changes when school begins, for going to school is a sedantary occupation in the strictest sense—not so much, however, as formerly.

1st *Overwork* is probably the cause of more nervous derangement than any other factor. It is unfortunate that no rule can be made, stating just how long a child of six may work; for many children at six will stand more work under the high pressure of educational methods, than others who are considerably older. The teacher must be the judge of how much time this little boy or that little girl can safely be employed.

2nd *Underage*—It is a disgrace to some communities that they insist on having little ones sent to school, more to be taken care of than taught. Children, in my opinion, under seven, and many older ones, are kept in school nominally at work far beyond the period for which they have the power to use their minds at work. Edward Chadwick has furnished us data governing this point which should not be set aside. He states that a child from five to seven years old is able to attend to one subject for about fifteen minutes: from seven to ten about twenty minutes: from ten to twelve, about twenty-five minutes: from twelve to eighteen, about thirty minutes. Every minute in school after their power of attendance is exhausted, is given to forming the habit of inattention; which is a clear loss to education, and that health must suffer is certain. A very exaggerated notion is entertained by some parents regarding the value of primary work, as if children at the age of five years could be said to be students in the proper sense. Schooling at this age means something radically different from what comes later. Wm. T. Harris has said: "We do not look so much to the gain in intellectual possessions as to the training of the

will into correct habits during the years previous to the seventh.

3rd. *Examinations* at all stages, and frequently repeated, are characteristic of recent methods of education. They are very useful, of course, but, in the opinion of many educators, are worse than useless when instituted merely to make a showing for work that has been when everybody is tired. Some schools for a child who has been faithful a whole school year to keep him in needless and anxious suspense about his promotion.

Examinations usually come at the end of the term, usually in the spring when everybody is tired. Some schools have, and I believe wisely, suspended all other work, to give as much ease and freedom as possible. This is probably the best solution of this problem. Examinations of a written competitive character require an enormous expenditure of nerve force, so much that many grown men and women students in the higher institutions of learning are made sick and to suffer from exhaustion following the week or ten days' examination prior to promotion or graduation.

4th. No child when in school should be permitted to be up at night attending children's parties or other entertainments. The little one retires late at night full of excitement, and its sleep is not profound; for many of them toss about in the bed or talk in their sleep—a restless sleep all night long. Society has not yet begun for them.

5th. *Tardiness*. So far as the health of a child is concerned it is better that it be tardy than lose its breakfast. Do not send your child to school half fed. Many a teacher notices children coming to school in a half-famished condition from this cause alone. Start them in time after they have had breakfast, to get to school without having to run, so that they may get plenty of good wholesome open air exercise.

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There are too many subscribers to the "Plexus" who have allowed their bills to run for two, three and even five years, although notices have been sent to each one who is in arrears every year. With this number another reminder is sent, and if I have no response by the 15th of January, 1907, I shall take it for granted that you want me to draw on you, and do so through your nearest bank.

J. E. Forrest. Publisher.

PROPHECY.

What I am about to write is the truth yet often truth is stranger than fiction, One thing is sure, it is no dream, because I do not believe in dreams. They are [merely the ramblings of an idle or overworked brain.

It was Saturday evening and the college was closed for the week. Tomorrow would be Sunday—the one day of all others, for the medical students to forget everything—to leave the city with its rush and roar, its human sufferings and passion and throbbings—to leave everything behind for God's country, when it is quiet, when one feels free and can breath and think and be alone.

Society is all right, city life is all right, but too much of it one becomes tired and indifferent when he knows its inner workings, and a feeling almost akin to disgust takes hold of him, and nothing will do but a change or a good dose of calomel and I decided to take the change.

Strolling along on that Saturday night, no where in particular I happened to run across a little old house snugly tucked away among the hills far to the south of the city. As I entered I heard voices and stepped behind some withered vines and listened.

"To-morrow I will startle the world with my invention." I heard one of the voices say. Then there was some whispering and finally in about half an hour two men came out locked the door and walked away still talking about the wonderful invention. My curiosity was immediately aroused. With a good hard push I broke the door from its rusty hinges and beheld one of the strangest machines I had ever seen. I wheeled it out in the moonlight to get a better look at it. On a brass plate I read the name; "Dr. John Aimone's Flying Machine. After carefully looking it over and studying its terrible and wonderful mechanism I concluded to take a trial spin. I could see no harm since every thing now o'days is conduced by trial—even marriages.

[] Seating myself in the nice leather cushioned seat I pressed the button—one of the superior and only Aimone buttons. I shot up a thousand feet in a minute and I nearly

lost my breath. When I was able to sit up again and take notice I found myself whirling past stars and planets galore. I brushed so near Mars I could see its people, so now that question is forever settled. I tore past the moon at the rate of one thousand miles a minute, but even at that fearful speed, I got a whiff of the limburger.

Finally I bounded into a zone of intense light and landed with a thud against a huge marble wall, and the machine lay quivering and still. I jumped out bewildered by the intense beauty all around me after my terrible ride through space and darkness. I walked around the wall until I came to a gate and there from the picture cards I use to see when a boy in Sunday school—(yes I once went to Sunday school.)—I recognized St. Peter and I knew I was at the gates of heaven—think of it, the nerve, a medical student standing at the gate of heaven, as far perhaps as they usually get.

St. Peter frowned, but he spoke kindly "A medic from earth I believe," I nodded. Tears came into his eyes and without a word he pointed down a broad path to a fiery planet I could see far in the distance. I hung my head (what else could I do) and started to turn away. "Wait" and the great saint came close to me and whispered, "seeing you are a P. & S. boy and consequently must be better than the average medics I will give you a special permit to enter but don't tell anyone and don't stay longer than just to see the sights." He wrote my pass and called an angel guide, (she looked very much like my classmate Dr. Seipple) and I found myself walking the streets of the City of Gold. I asked first to be conducted to the medical department and the P. & S. building. Entering there in an immense marbled room, upon a diamond throne, sat our secretary, Dr. Earle. He was very much surprised to see me, a medical student, In fact I believe we were both surprised to see each other. I explained to him I was only there for a day or two on a special pass. He told me he was Acting Dean until our Dean arrived, which according to St. Peter would not be for many years yet, as the doctor was helping humanity too much on

earth to let him leave that planet. Leading me to a room marked, "Class of '06" I noticed arranged in the wall in alphabetical order were queer little mechanisms and under each instrument was the name of one of my classmates. "This is where I keep tab on the students of '06." he said. I can read their future and can see exactly what they are doing any time of the day or night. I know you will be interested, and now I must leave you and I will send in the guide and she will show you everything.

Left alone I walked over to the futureoscope of Dr. Davenport and pressed the button—yes it was an Aimone buttons also—The life of our class president, twenty years hence rame before me in a flash. There he sat in his Chicago office, the same quiet determined, thoughtful physician as he was a student. His office was crowded with patients, most of them residents of the Lake shore drive. That he was the leader among the men of the profession, was easily noted by listening to the telephone calls, from such physicians as our Dean, Dr. Quine, Dr. Murphy, Dr. Billings, Dr. Steele and others, asking him to meet them immediately in consultation.

Walking on further to Dr. Betty Nelson's futureoscope I saw far away India spread before me. There sat Dr. Nielson, in her straw and thatched office, under the blazing sun, a medical missionary to those heathen Hindoos. Crowds of swarthy little fellows were trying to crowd into her office to be cured by our Betty—their medicine Queen. As I looked I saw her reach down and pat a large python which was coiled at her feet and the great monster pet looked up with a yawn which was meant for a smile; and the Doctor smiled back and then turned to the little Hindoo by her chair who was telling her about his awful, awful stomach ache.

I next took a peep in the future of Drs. Connor & Conner. There was the new San Francisco and in one of its high white skyscrapers they had their office. As it was in the beginning and always shall be, so was it there as I behold them in their office. Alfred was as usual still letting his wife take the notes, (this time it was U. S. notes,) and

she was letting him get up in the morning and make the fire and get breakfast. The World's fair of 1913 was in progress and their office was crowded from morning until night with patients and visitors, two of the visitors whom I saw walk into the office I recognized. Dr. Charles Conroy and by his side a little girl whom he called Rose and I saw at a glance it was Dr. Rose Zalesky. They were located in Minnesota and were visiting the World's Fair. Dr. Conser was taking care of their practice while they were away on their wedding trip. Big, jolly, old Dr. Conser was certainly the right man to take care of Drs. Conroy & Conroy's huge practice.

I walked over to the futuroscope of Dr. J. B. Maguire. I saw the doctor sitting in a palatial home in Mexico. It was evening and he was sitting in his study. His little bright, dark eyed wife, Lizzie was standing behind his chair running her hand through his beautiful hair. The doctor was just finishing writing a testimony for Dr. Hall's Hair Invigorator for which he would receive \$1000. The scene looked a happy one and I closed the scope and opened Dr. Calvin Brown's life. I saw the doctor first studying law, later I saw him located in Rising City, Neb., after which he married and moved to East St. Louis. There was the doctor in his office in St. Louis and he had an arm full of bottles going back to his laboratory to make a urinalysis. He examined one or two bottles and then I heard him say "Oh! thunder, what's the use," and the next moment I heard a crash of bottles, and then I heard a voice call, Oh! Calvin, what have you done," and there appeared at the door of the laboratory an acute little heavyweight blonde which I immediately recognized as his wife.

I moved the "futuroscope" ahead a few years and next saw Dr. Brown located in Chicago and was resident physician for the Illinois Training School for Nurses.

To be continued.

LIBRARY NOTES.

The following journals are on file in the Quine Library; the current numbers are placed in the reading room as soon

as received, while the back numbers are always to be had by asking the librarian:

Albany Medical Annals.

American Journal of Medical Sciences.

American Journal of Nursing.

American Journal of Clinical Medicine.

American Journal of Physiology.

American Druggist.

American Medical Compend.

American Medicine.

American Practitioner and News.

Annals of Gynecology and Pediatrics.

Annales de l'Institute Pasteur.

Annals of Ophthalmologie.

Annals of Otology, Rhinology and Laryngology.

Annals of Surgery.

Archiv für Experimentelle Pathologie and Pharmacologie;

Archiv für Mikroskopische Anatomie

Archives de Medicin Experimentale.

Archives of Pediatrics.

Atlanta Journal-Record of Medicine.

British Medical Journal.

Bulletin of the American Academy of Medicine.

Brooklyn Medical Journal.

Buffalo Medical Journal.

Bulletin of Johns Hopkins Hospital.

Bulletin of Lying-in Hospital, New York.

Bulletin of Pharmacy.

California State Journal of Medicine.

Canadian Practitioner and Review.

Centralblatt für Bakteriologie.

Central States Medical Monitor.

Charlott Medical Journal.

Chicago Clinic and Pure Water Journal.

Chicago Medical Recorder.

Cleveland Medical Journal.

Clinical Review.

Denver Medical Times.
Detroit Medical Journal.
Dietetic and Hygienic Gazette.
Dominion Medical Monthly.
Ft. Wayne Medical Journal Monthly.
Good Health.
Illinois Medical Journal.
Index Medicus.
Indiana Medical Journal.
International Journal of Surgery.
Interstate Medical Journal.
Iowa Medical Journal.
Journal of American Medical Association.
Journal of Anatomy and Physiology.
Journal of the Association of Military Surgeons.
Journal of Cutaneous Diseases.
Journal of Experimental Medicine.
Journal of Kansas Medical Society.
Journal of Medical Research.
Journal of Michigan State Medical Society,
Journal of Minnesota State Medical Society.
Journal of Nervous and Mental Diseases.
Journal of Obstetrics and Gynecology of the British
Empire.
Journal of Pathology and Bacteriology.
Kansas City Medical Index Lancet.
Kentucky Medical Journal.
Lancet.
Maryland Medical Journal.
Medical Age.
Medical Bulletin.
Medical Examiner and Practitioner.
Medical Fortnightly.
Medical Herald.
Medical News.
Medical Record.
Medical Review of Reviews.
Medical Standard.

Medical Times.
 Medicine.
 Medico-Legal Bulletin.
 Merck's Report.
 Mobile Medical and Surgical Journal
 Monthly Cyclopedia of Practical Medicine.
 New York Medical Journal.
 Northwest Medicine.
 Ophthalmic Record.
 Pacific Medical Journal.
 Pennsylvania Medical Journal.
 Providence Medical Journal.
 St. Louis Medical Review.
 St. Paul Medical Journal.
 Schmidts Jahrbücher.
 Sei-i Kwai.
 State Board Journal of America.
 Surgery, Gynecology and Obstetrics.
 Texas Medical Journal.
 Texas State Journal of Medicine.
 Therapeutic Gazette.
 University of Pennsylvania Medical Bulletin.
 Virchows. Archiv für Pathologische Anatomie.
 Virginia Medical Semi-Monthly.
 Washington Medical Annals.
 Western Medical Review.
 Wisconsin Medical Journal.
 Woman's Medical Journal.
 Yale Medical Journal.
 Zeitschrift für Wissenschaftliche Mikroskopie.
 Zentralblatt für Physiologie.

SENIOR NOTES

“O. (W) ell what's the use?”

Why not furnish our president, Davenport, and vice president, Jenkins, with a gold dish, in which to collect those precious “Mark me present” notes.

The name of H. B. Kingsbury, as a member of the quiz class, was unintentionally omitted from the last issue.

Dr. Wells says the only persons who have the privilege of using the word, *we*, in speaking of themselves, are editors and a person with a tape worm. It is hoped that no question, as to which is meant, will arise in the minds of the Plexus readers, if "we" should use that word.

In Psychiatry. Prof. K.—"Mr. B., what is consciousness?"

Mr. B.—"Consciousness is the ability to recognize psychological facts."

Quiz Master—"What is one of the cardinal symptoms of this disease?"

Whiskered Medic.—"Abdominal tenderness over the tricuspid area."

Mr. Staley now walks with a firmer step, and carries a more decided countenance. Why? A new boy at home.

Friend Baekman decided not to have the typhoid fever, and is around attending to his duties as faithfully as ever.

Dr. Allen—"In making a diagnosis, with what disease is scurvy most likely to be confused?" Wochos (After due deliberation) "Scorbutus."

Dr. D. (Illustrating a delusion)—"Mr. F. was that a delusion or an illusion I described?"

Uncertain F. (In low tone)—"An illusion."

Dr. D. (Who did not hear)—"Spell your answer please."

Mr. F. (After sufficient prompting from behind)—"D-e-l-u-s-i-o-n."

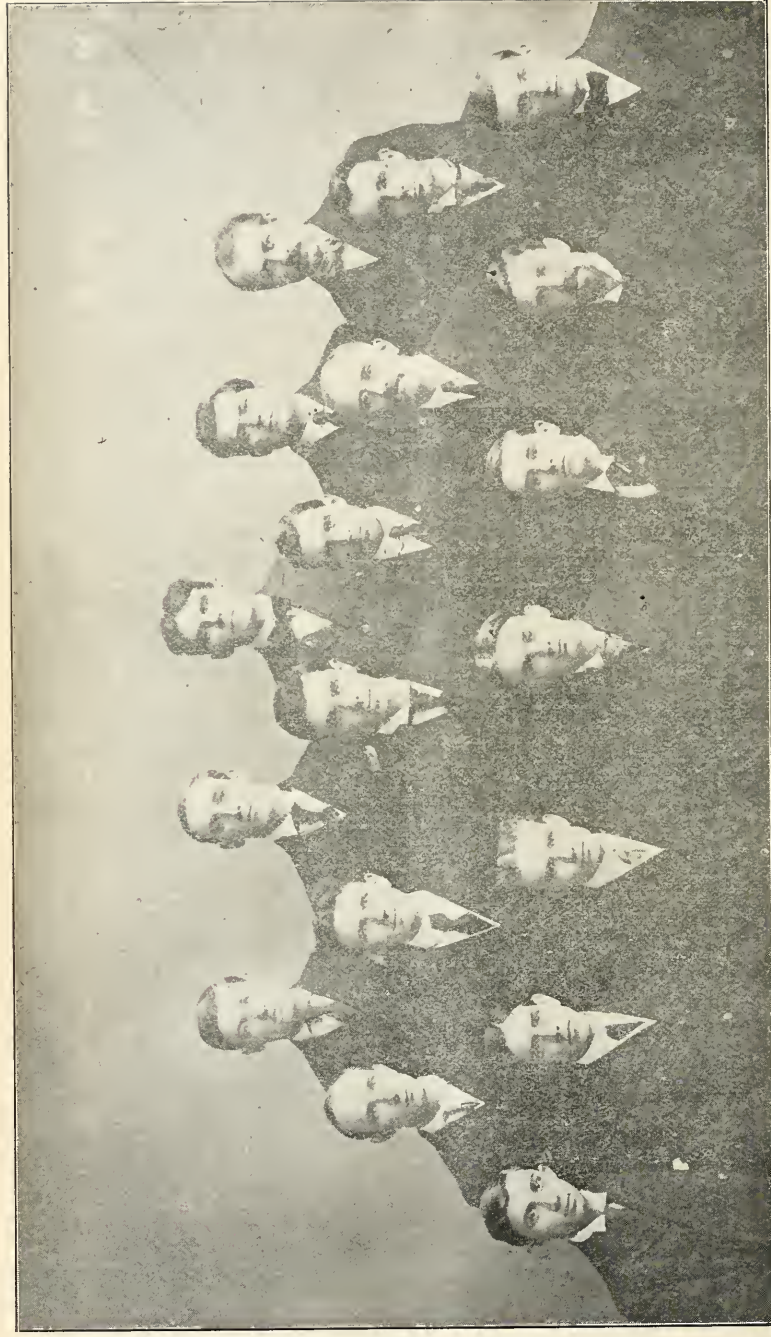
Dr. Bacon—"In case of cancer of the cervix complicating pregnancy, would you do a vaginal or abdominal hysterectomy?"

Mrr C.—"Abdominal."

Dr. Bacon—"Why?"

Mr. C.—"Because it would be less likely to produce abortion."

OFFICERS OF CLASS 1907.



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			H. E. Jenkins, Vice-President.	Max Meyerovitz, Ex. Committee.

J. E. Clark was demonstrating a very typical case of Hutchinson's teeth to his "colleagues", when the patient informed him that teeth were false. This incident illustrates the high degree of skill in modern dentistry.

Dr. Benson has ideas of his own on raising children; he even went so far as to say that a good spanking was not a bad thing for some youngsters.

JUNIOR NOTES.

Mr. Eckman in further research work has developed a new treatment for dysentery. Give large doses of a 1 to 200 solution of mercuric chloride. Exact dose not stated.

Gearin electrified the class in surgery by stating that hydatid cysts were congenital and therefore have a striking resemblance to dermoid cysts.

McCabe—"I'm not a lawyer, nor am I a dancing master."

Moran—"Has the angle of Luis anything to do with Lues."

Goembel visits the monkeys at Lincoln Park. Did they think you were Caruso?

Schussler cannot differentiate between organic and inorganic bacteria.

Humiston and strenuous life; eats lunch; does celiotomy; drives two miles; rides in a car five miles; (misses one car too) all in 85 minutes.

Otrich—"You get chlorosis from eating nicknacks."

Montgomery—"Smartness is a symptom of laceration."

Doc. Clark believes that the malaria bug cannot sporulate more than once for each inoculation. Would a mosquito have to bite you every 24 hours? We interviewed Doc but he had nothing to say. The same is true of him when the professors are quizzing him.

Noger saw a carcinoma of the cervix in an old man of

85 years. Operation contemplated. Particulars of the rare case will be given later.

Skwor—"Dr. Harris, what does Ellis' line make a noise like?" Skwor acts as guide around the school for two of his lady friends, and a week later he pilots papa and mamma around the County Hospital. Lucky for Charlie they were not all here together.

Neuralgia causes loss of hair on the face. Graduation from a medical school causes a growth of hair on the face.—Adapted from Eisendrath.

Why did Dowd and McCabe walk home from the Majestic? Carfare?

Beware of the 13th man on Friday, Nov. 23, says Schussler.

Plexus Puzzle—Who chews gum, reads the Record-Herald and dozes in the front seats during lectures. Send answers to Puzzle Epitor, Plexus.

Gordon has a pair of Frazin's patents. He only wears them when he goes to see a friend in Dunning. Hope he does not appear as he did in the Physical Diagnosis class. Some one must have stolen his shirt and ties that day.

Extensive research work has evidently been conducted for some time past on lines interesting to medical students in general by our brother classmate Mr. Eckman, who advised Dr. Sherwood of his findings by stating that the thyroid gland secretes continuously and pours the same upon the surface of the tongue during the process of digestion in a stream of no small dimensions. Dr. Sherwood, following his customary liberal manner of discussion, promptly admitted to the class his gross ignorance of the existence of such a condition, and appeared to be highly elated at the importance of the discovery.

FRESHMAN NOTES.

The difficulty between the people of F. V. Johnston and turkey over disputed territory was amicably settled Novem-

ber 28th, the latter rather hastily but gracefully being devoured.

Since division A of the class in biology have not heard from the committee appointed by division C to investigate the Fischer case, they have come to the conclusion that said committee have decided to consider Dr. Fisher a member of the genus *a la zonae pelucidaris professoribus brotherisque*.

At a recent class meeting it was voted that the petition circulated for the change in the schedule be destroyed and the class abide by the appointments made by our honorable faculty. This clearly demonstrates that the class desires to avoid all discord and work in harmony with the governing body.

Dr. Wyncoop continues to turn his deaf ear to the man who is reciting, and invites those who adorn the upper seats to gather around close. •

Toleberg and Clark are among those on the sick list; we regret their absence from the class and wish them a speedy recovery.

The editor would be much pleased if the members of the class hand in a few items and help to lighten his burdens.

ALUMNI ITEMS.

Dr. Harriett B. Jennings, '03, is now located at Elkhart, Ind., and is well satisfied with the new location.

Dr. H. F. Carman, '06, has removed from Bellingham, Wash., to Anaconda, Wash.

Dr. W. F. Casavaw, '03, died suddenly at his home in Omemee, N. D. The members of his class deeply regret his early demise.

Dr. George Woodnick, '03, who has been conducting a pharmacy on Fifth Ave. near Harrison St., in connection with his practice, has disposed of the former and will in the

future devote himself exclusively to his profession. Dr. Woodnick has the appointment 'as Chief Surgeon for the Chicago Terminal Railway Company.

Dr. Frederick Bauer, '96, is located at Moscow, Mich.

FROM AN ALUMNUS.

Monroeville, Ind., Dec. 6, 1906.

John Weatherson, M. D., Chicago, Ill.

Dear Doctor:

As alumni editor, you may be somewhat interested in the recent graduates, especially those of '06 (naughty-six). After graduation in June, some ten of us became Hoosiers and followed our calling under the protection of a permit to practice until last October, when we were working members under the supervision of the State Board of Examination and Registration. How well we acquitted ourselves and P. & S. during the the three days session, the following points attained out of a possible 1000 will show:

Bent.....	842.9
Feagler.....	845.8
Osborn.....	853.4
Jennings.....	854.5
Becktal.....	866.6
Siders.....	872.1
Murray.....	877.3
McGillivary.....	889.6
Hoover.....	893.0
Sunderland.....	936.5

Out of seventy five examined, seven failed. We all felt pretty thankful to pass. My grade secured me second honors. The best grade made last year was 938.8. Thanks to the splendid course given by P. & S. Have met with the best o success since locating here. Always remembering your most excellent quizzes, I remain,

Yours very truly,
W. E. SUNDERLUND.

SCHOOL OF DENTISTRY

DENTAL DEPARTMENT
UNIVERSITY OF ILLINOIS.

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BATAVIA, ILL., DEC. 20th, 1906.

DENTAL THERAPEUTICS.*

BY GEO. W. COOK, B. S., D. D. S., Chicago, Ill.

Dean and Professor of Bacteriology and Pathology, University of Illinois; Professor of Oral Surgery, Dearborn Medical College.

In the discussion of atropine we called attention to the previous issue to some efforts that it had on the secretions of saliva. We there stated that the cause of the arrest of secretion in the salivary glands was not due to the action on the glandular cells, but that it caused paralysis of the nerve endings in the secretory glandular substance. The secretions of saliva in the normal animal takes place usually when the nerve impulses reaches the gland cells by one of two paths, namely, the cervical sympathetic, or chorda tympani. If the chorda tympani be divided and an application of the electrodes be made to the severed nerve and a cannula be passed into Wharton's duct, a rapid flow occurs on stimulating the nerve, and ceases when the stimulation is removed. If atropine is injected the stimulation of the nerve will not increase the flow of saliva.

These experiments have been carried on by a number of pharmacologists and all seem to come to the same conclusion.

Reprint from American Dental Journal.

sion, that the atropine causes paralysis of the peripheral secretory apparatus. Many papers published from the hands of the early investigators seem to show that their relief was truly in the hypothesis that the action of this drug was on the gland cells rather than in the nerve endings. The location of the action of atropine on the nerve fibers seems to lie between the ganglion cells on the course of the chorda tympani to the secreting cells. The action, however, is usually confined to certain definite terminations of the nerve endings along the chorda tympani nerve fibers.

It has been pretty conclusively shown that the sympathetic nerve fibers are not paralyzed. Experiments show that when the chorda tympani is stimulated in the normal animal there is increased redness of the glands, accompanied by swelling, a rise of temperature, and the venous blood escapes in spurts very much in the same way as though the blood came directly from the artery. This of course is due to the increased arterial tension brought about by stimulating the vasodilatory fibers. Thus it would seem from this that atropine acts upon certain secretory fibers of the chorda tympani. The secretion of saliva is produced by certain nerve impulses that pass along the chorda tympani. Thus on the administration of a drug like atropine the paralysis of the select nerve endings in the secreting cells takes place.

All glandular tissue, both of the mucous membrane as well as the sweat glands, readily becomes affected practically in the same way as does the salivary glands. This general statement may be applied only to the gastric juice and possibly not at all to the pancreatic; but the secretions of the pancreas differ very materially from that of the salivary glands. The salivary glands must depend almost entirely upon the activity or rather impulses along certain nerve fibers, while that of the pancreas is not dependent upon the nerve supply of that organ; for it has been shown that the secreting cells of the pancreas continues for some little time after the nerves of that organ have been separated.

The secretions of milk has somewhat the same relations as does the sweat glands, both are affected by nerve impulses more or less. Atropine therefore reduces the secretions by paralyzing the peripheral nerve endings.

The amount of bile is somewhat lessened in quantity by the administration of atropine, and it has been observed that the quantities of bile cannot be increased by stimulating the pneumo-gastric nerve.

The paralyzing influence of atropine on the nerve endings is manifested in many ways. There is a well-known experiment to the effect that if you stimulate the sciatic nerve in the dog or cat it will cause perspiration of the feet, and if atropine is administered it will prevent the perspiration of the feet. This is probably the best illustration of paralysis of the nerve endings.

We have called attention to the fact that atropine is one of the most effectual drugs when it is necessary to arrest the secretion. In renal secretion atropine does not have the effect that is so manifested in other glands. Lymph is not changed qualitatively nor quantitatively by atropine, according to Horbaczewski. The number of leucocytes in the blood are lessened, also the amount of uric acid in the urine is diminished.

We have previously mentioned the fact that all organs containing unstripped muscular fibers are affected by atropine, thus it will be seen that the heart, stomach, intestines, bladder, uterus, spleen, etc., are more or less affected by this drug. However it will be seen that the nerve endings in the unstripped fibers are affected in the esophagus; while the nerve endings in the striped muscular fibers are but little, if at all, interfered with. It was found by Luchsinger that the paralysis of the vagus termination in the unstripped muscular fibers was more affected than the termination of the sensory nerve endings. One curious fact has been observed and that is, that the motor nerves of the esophagus is affected, and this accounts for the difficulty in swallowing when an animal is poisoned with this drug. The peculiar interference with swallowing has been attributed to the arrested secretions of

the mucous membrane, but beyond question it is due more to the paralysis of the motor nerve endings.

The effects of atropine on the pupil of the eye has been the subject of many researches and experimentations by both physiologists and ophthalmologists. It has been shown experimentally that the peculiar action on the pupil of the eye is accomplished by the internal administration practically in the same way that it is when applied locally. The local application of the drug produces paralysis of the motor nerve endings in the circular muscles of the iris.

The question might be asked, is this paralysis due to the action of the drug on the nerve fibers or the muscular fibers?

The statement can be pretty positively made that the effect is on the nerve fibers, because the motor muscles are easily stimulated by an electric current showing that this is produced in the nerve fibers rather than in the muscular. The local action may be demonstrated by the application of small quantities of the drug to one side of the cornea, which will cause dilatation of that side, leaving the other unaffected. When the motor oculi will transmit impulses through the ciliary nerves to the sphincter muscle of the iris, and keeps the pupil moderately contracted until the paralysis of the nerves is complete, the sphincter relaxes and the pupil dilates. However, as just stated, the muscular fibers are in no way directly acted upon except through the nerve endings in the muscle. It is believed by some observers that the sympathetic nerve fibers are stimulated to a more or less degree by the application of the agent.

In rabbit and in man the dilatation of the pupil is sometimes preceded by a contraction, which is considered to be due to slight irritation setting up a reflex through the sensory nerve endings in the conjunctiva. When the dilatation is complete the pupil ceases to contract when exposed to a bright light. The effects of the drug on the dilatation of the pupil is observed when paralysis has taken place in the muscles of the accommodation, for the simple reason that objects at a distance can be seen as well as ever and some-

times it is thought even better, while objects near by are entirely excluded from the vision. This particularly illustrates the point previously made and that is, that the action is purely through the nerve endings in the motor fibers.

Some writers have believed that the interocular pressure, so-called, is very much increased by the local application of atropine. A question that is frequently discussed is whether the drug acts directly upon the interocular fluids. This, however, is not a question for us to settle at this time.

We have previously mentioned that atropine has a paralyzing influence on the inhibitory termination of the vagus of the heart. However, it might be stated that if the heart be stimulated through this nerve there is but little change observed in the pulsation of this organ. There are a number of other drugs that act on this nerve in particularly the same way, with the exceptions however that they affect the nerve trunk, while atropine affects the nerve endings in the muscular fibers. After paralysis of the ganglia of the vagus electrical stimulation of the venous sinus of the heart pulsations gradually grow slower until it comes to a final standstill. Several drugs stimulate the end of the vagus in the heart where there is no ganglia, and if atropine be applied the normal function of the heart continues, as though these drugs were not present. This again illustrates the fact that atropine only paralyzes the inhibitory nerve endings in the heart.

Atropine has a decidedly different action in different animals; for instance, in the dog the heart's action is very much increased, while in the cat the vagus is less easily acted upon by the drug. This is most likely due to the fact that the vagus in the cat seems to have less irritability than in the dog. In man the age of the individual plays a very considerable role with reference to the effect that is produced. It has been observed that the inhibitory nerve fibers are quite inactive in man at birth, while as age advances the tone of the inhibitory nerves are very much increased up to twenty-five or thirty years of age. From this on there is a decline in irritability of the inhibitory nerve

fibers, consequently atropine does not quicken the heart's action in the new-born, but affects it more and more up to thirty years of age, when it is shown that the decline of tonicity of the inhibitory nerves set in and atropine affects them less and less up to old age, when at an advanced age the effects are very much like those in very early life.

In our discussion of this subject we have shown that the peripheral nerve endings are the first to become affected, and that the effects are first noted in the nerve endings of the unstriated muscular fibers; it then affects the nerve endings in the granular cell tissue and there establishes the various conditions, such as arrested secretions of all secreting cells. It is an evident fact from all that we have seen that atropine has a peculiar effect upon all substances in which there is a motor nerve fiber.

According to my own clinical experience the application of atropine to an irritated tooth pulp will in the majority of instances arrest the irritation and rapidly bring relief to this organ. This demonstrates that we have in the tooth pulp motor nerve endings in the blood vessels and that it produces very much the same effect there that it does when applied to the iris, with the exception perhaps that in the first effect there is not a stimulation of the sensory nerve endings, but at once causes paralysis of the nerve endings in the pulp tissue with a complete relaxation of the dilated blood vessels, which invariably brings about the relief of pain. Any one who has not tried this treatment will certainly, on the application of atropine to an inflamed pulp, find almost instant relief. However, if the inflammation of the pulp has progressed to the extent that there is wandering out of the blood vessels, the red blood corpuscles, the extent of relief will not be to as satisfactory termination as it would be in the early stages of the process. If one would extract a tooth in the early stages of pulpitis, crack the tooth open at once and remove the pulp intact, and apply atropine before the fibers in the pulp have lost their tonicity, an application of atropine on the pulp when placed on a microscope slide, and viewing its effects upon that tissue

under the microscope, he would at once see that the red blood corpuscles would instantly stop their movements and the blood vessels would immediately relax.

One might say that this relaxation of the blood vessels was due to the separation of the vessels from their main supply, but on examination of pulp tissue in which the atropine had not been applied would demonstrate the fact that there is no change in the vessels for some little time after the removal of the pulp. These are facts that can easily be demonstrated by any one who wishes to try such an experiment. Up to the present time there has been but little attempt on the part of the dental profession to use any of the alkaloids in these conditions.

(To be continued.)

RECIPROCAL LAWS.

I am glad to see a revival of the subject of interstate reciprocal laws, says Will S. Kelly, D. D. S., in *Items of Interest*. Believing that each state has enacted laws for the protection of its citizens from being preyed upon by incapable men, calling themselves dentists, and knowing that the professional part of the science has been so largely abused, it is but natural that they should be wary about breaking over the lines bordering upon reciprocity. I think the time has come, however, when this matter should be more deeply studied. This subject was closely outlined by me, in a paper read before the Susquehanna Dental Society, at Easton, Pa, May 14, 1903, and was published in the *Dental Brief* shortly thereafter.

The United states is one gaeat country. The citizens of the United States are one great family, and the United States their home, and our constitution gurrantees equal rights to all. Beneficial interests should be common thorout this great lands of homes, and freedom from oppresion. It is true that all people do not posess the same degree of intelligence, or manipulative ability, or the same energy; but we must confess that environments are somewhat different. As we all are, or should be working for the best interests of our

countro and mankind, why not get together and adept some plan which will give to all certain deserved prlvileges, and at the same time protect our bretheran from the ravages of the incompetent. It is bnt a simple matter to adopt an educational examination of a high standard for all states, so that any man who successfully meets the requirements of his own state should be permitted to practice his chosen profession in any state of the Union. There would be no sectional bitterness then, an we, as members of a large family, would be accorded equal protection. It is absurd to say or think that the citizens of one state are deserving of better treatment than those of another. They all deserve the best obtainable, and this position can only be reached by reciprocal lows on the foresaid lines, free from prejudices. It is unfair and un-American to say that a man is good enough to practice in Pennsylvania or New York, and not good enough to practice in any or every other state in the union, without again being placed upon the rack of technical examinations, after years of hard work and consequent forgetfullness of unnecessary things, such as chemical analysis, reactions, etc. We have no doubt that most dental examining boards have discretionary powers, and are more anxious to learn of the capability of the examined as a dentist than of his technical knowledge, but that does not modify the principal of unjustness in our own domain. Let those in autnority on such subjects in each and every state meet on neutral grounds, and form themselfec into a court and jury. If our examinations are of a high standard, and adopted everywhere, it will simplify matters, and add more luster and dignity to our profession, and people will not be so prone to say, "Oh, he is only a dentist!"

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EBERT.

Albert Ethelbert Ebert—the Nestor of American Pharmacy is gone—gone, but not forgotten.

For over a half a century he has engaged in Pharmacy and for forty years the name of Ebert was associated with every movement for the advancement of Pharmacy as a science and its progress as a profession.

There may be and doubtless are other men who have attained greater prominence in some special department of Pharmacy, but it is believed that there are none whose name and association have been so long and well known to the pharmacists of America as that of Albert E. Ebert.

Possessed of a superior intellect, a fine mind and a keenly analytical disposition, he often appeared in a critical, and to his best friends in an uncompromising, too combative attitude.

But those who knew him best were well aware that beneath this apparent dominating exterior—this fearless, restless spirit—was as warm and generous a heart as ever beat for the weak, the poor and lowly and especially the young and inexperienced in his own profession. It was his absolute incarnate, unselfish and altruistic devotion to Pharmacy, which fortified him with an indomitable will and persistent

courage that brooked no interference and made him sometimes oppose friend and foe alike.

He was far sighted in matters pharmaceutical and often in the minority on questions which eventually proved the correctness of his views. His sole ambition was to improve the status and practice of Pharmacy and to extend and promote the usefulness of the American Pharmaceutical Association. To Ebert the greatest man that ever lived was Wm. Procter, with whom he became associated early in life and to whom he became more deeply attached than even a brother. He felt Procter's loss at an early age most keenly and seemed in testimony of his dear friend, to assume his burden, to carry out so far as it was in his power, the project and progress of the American Pharmaceutical Association, as based on the eternal principles laid down in the Constitution. His first and last thought was of the Association and its work. His last words, while on his death bed, were:

The American Pharmaceutical Association,

It was my Life; it gave me a Profession.

His wife having died last April, with no children, he left all he had to the Association.

Of late years Mr. Ebert devoted much time and thought to Historical Pharmacy in the A. Ph. A. and as historian to the Chicago Veteran Druggists' Association in the Anniversary Volume of which appeared the following sketch:

Mr. Ebert was born in Bavaria, Germany, December 23, 1840, and came to this country with his parents in 1841. His father was a horticulturist and gardener, and with his family settled in Chicago, where later young Albert received a part of his education in public and private schools.

In October, 1853, he entered the drug store of F. Scammon & Co., 140 Lake Street, Chicago, where he served for four years as an apprentice. He then entered the store of Henry Bronold, with them he remained two years, familiarizing himself with German pharmacy, at the end of which period he returned to the old store, that, in the meantime, had changed owners and had become the store of Sargent &

Isley. Here he took charge of the retail department, remaining until 1861. In 1859, on the organization of the Chicago College of Pharmacy, he enrolled himself as a student and attended lectures in that institution until 1861, when the course was suspended, owing to the breaking out of the Civil War.

Young Ebert then entered the employ of Dr. F. Mahla, a distinguished chemist of Chicago, with whom he remained two years. In 1863 he entered the Philadelphia College of Pharmacy, graduating therefrom at the head of his class in 1864. During this time he was also a student in the medical department of the University of Pennsylvania and was associated with Prof. Edward Parrish in the school of pharmacy for the training of applicants to the medical departments of the army and navy, and for students preparing for examination in medical colleges.

In 1864 he attended a meeting of the American Pharmaceutical Association in Cincinnati and was elected a member of that organization. Desiring to prosecute his studies still further, Mr. Ebert next went to the University of Munich, Bavaria, where he studied under Professor Justus Von Liebig and under Wittstein, in whose laboratories he completed his studies, receiving the degree in philosophy. With Professor Procter, of Philadelphia and John Faber, of New York, he represented the United States at the International Pharmaceutical Congress in Paris in 1867, after which he traveled for several months with Professor Procter in Switzerland, Germany and France.

Soon after this Mr. Ebert went to Dundee, Scotland, as a delegate from the American Pharmaceutical Association to the British Pharmaceutical Conference, and was made an honorary member of that body. During his stay in Great Britain he made the acquaintance of the leading chemists and pharmacists of that country, his letters of introduction from Liebig, Wittstein, Procter and others giving unusual facilities for observation and instruction among the teachers of chemistry and pharmacy.

In 1868 Mr. Ebert returned to Chicago and opened a

pharmacy at Twelfth and State Streets, from which he retired in 1877, after having made a fortune, in order to devote himself to the manufacture of grape sugar and glucose at Milwaukee, Peoria and Chicago. He invented the sulphurous process for the manufacture of glucose.

Having lost most of his money in the glucose business, then a new venture, in 1883, Mr. Ebert purchased the pharmacy at the northwest corner of State and Polk Streets, and in the following year acquired another store at the southwest corner of Madison and Halsted streets. The management of the latter proving uncongenial he sold it after a few years and continued at the State street Pharmacy until this year, when he was forced to move a few doors west on Polk, being crowded out of the corner by the "Cigar Stores" Company.

In 1868, The Pharmacist, a publication of the Chicago College of Pharmacy was started and Mr. Ebert became its editor, a position which he held until 1876. This publication, in 1887, was merged with the Western Druggist.

Mr. Ebert was professor of Pharmacy in the Chicago College of Pharmacy and was chiefly instrumental in securing the admission of the college into the University of Illinois in 1896, being a member of the Advisory Board ever since. He was vice president of the American Pharmaceutical Association in 1868 and president in 1872, when he founded the Ebert Prize for scientific research, the original donation of 500 dollars now amounting to 900 dollars. He was on the Revision of the United States Pharmacopoeia in 1870, was vice-president of the national convention for its revision in 1890 and was again a member of the convention in 1900, being elected a member of the Board of Trustees of the Pharmacopoeial Convention. He has been a prominent contributor to the leading pharmaceutical journals for many years and in collaboration with A. Emil Hiss, he prepared the Standard Formulary. Mr. Ebert served five years on the Illinois Board of Pharmacy and was a member of the Chicago Historical Society, the Academy of Sciences, etc.

He was married in 1871 to Miss May L. Whiteley, who died April 10, 1906.

While in apparent good health Mr. Ebert for many years had been suffering from some intestinal complaint, aggravated in recent years by a diabetic tendency. The loss of his beloved wife last April was a severe blow to him and some of the most intimate friends expressed doubts as to his being able to successfully withstand the shock. On Sunday, November 4, he visited President Eliel in South Bend and spent the day pleasantly in company of Messrs. Meissner, Wooten and Hallberg, their wives and Messrs. Meyer and Reyer and their families. Two days after his return he had a severe chill, complained of his old trouble and on advice of his physician went to bed. Nothing serious was expected and the following Tuesday, at the Branch meeting one of the physicians reported that Mr. Ebert was out of danger and would soon be about. He quickly took a turn for the worse, however, and Sunday was removed to St. Luke's Hospital, to be operated, the disease having been diagnosed appendicitis. An abscess having formed, a preliminary operation was performed, Sunday night, which he stood well but left him in such condition, superinduced by his diabetic state, that he began to loose ground the following night and passed away peacefully Tuesday, November 20, at 4:45 P.M. in the presence of Mr. and Mrs. Whiteley, his nearest relatives and Dr. Hugh Wisdom.

THE CEREMONIES.

Never in the history of Chicago was such an outpouring of druggists and persons connected with the drug trade, as assembled at the University of Illinois School of Pharmacy, Friday morning, November 23, to pay respects to their departed friend. The simple cloth-covered casket was placed in the chemistry lecture hall against a back-ground of floral offerings, imposing in splendid beauty, by the pallbearers, comprising the following members of the Chicago Veteran Druggists' Association: Messrs. T. N. Jamieson, Jno. Blocki, W. Bodemann, W. K. Forsyth, F. J. Schroeter, and F. M. Schmidt. The Imperial Quartette rendered "Lead Kindly Light" and C. S. N. Hallberg introduced the President of the Chicago Veteran Druggists' Association, Theo.

H. Patterson, who referred feelingly to the deceased and called on the secretary W. Bodemann who read the following resolutions adopted at a special meeting and also spoke of his long acquaintance with Mr. Ebert and his good qualities:

"In Mr. Ebert's death the C. V. D. A. lost one of its most honorable charter members, ex-president and historian to whose indefatigable energy and industry we owe the collection of historical data of the history of Chicago pharmacy. It was due to Mr. Ebert's suggestion that the old-time druggists were called together on June 21, 1898, the date of the birth of our C. V. D. A. In Mr. Ebert we lost one of Chicago's best-known pharmacists, one who was ever ready to go to the limit of his ability to help a druggist in distress, one who was ever ready to do yeoman work when the cause of pharmacy was at stake.

"The C. V. D. A. in quarterly meeting assembled goes on record as the chief mourner at his bier. We who knew him best appreciate his value most and honor ourselves by honoring his memory. The name of Ebert is imperishable in the history of American pharmacy, but he was ours in a peculiar way, for we loved and respected him for his untiring efforts to promote the cultivation of fraternal feeling among the old-time druggists who made history and whose history we wrote."

The principal address was then made by Geo. P. Engelhard who analyzed the peculiar attitude of Mr. Ebert in matters spiritual and rendered most appropriately some selections from William Cullen Bryant. As the speaker turned dramatically to the bier and eloquently called on the spirit of Ebert to answer, the several hundred friends present realized that while the "man" Ebert was gone his "spirit" lives and will continue to be an inspiration to all who have pharmacy dear to their hearts. Short addresses were made by Leo Eliel, president of the American Pharmaceutical Association, Dr. H. M. Whelpley, on behalf of the trustees of the Pharmaceutical Convention and Wm. B. Day for the Faculty of the University of Illinois School of Pharmacy.

This closed the exercises and the cortege wended its way up Michigan Boulevard by special permission of the authorities to Graceland Cemetery, where all that remained of Albert Ethelbert Ebert was laid alongside of his departed, dearly beloved wife as was expressed by both of them as their dearest and last wish on Earth.

Among the institutions represented were the following:
Chicago Veteran Druggists' Association; entire membership.

American Pharmaceutical Association.

Chicago Branch American Pharmaceutical Association.

United States Pharmaceutical Convention Trustees.

Chicago College of Pharmacy, Alumni Association.

University of Illinois School of Pharmacy.

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Missouri Pharmaceutical Association.

Indiana Pharmaceutical Association.

National Wholesale Druggists' Association.

National Association Retail Druggists.

Chicago Retail Druggists' Association.

Chicago Drug Trade Club.

Chicago Social Drug Club.

—*Bulletin of the American Pharmaceutical Association.*

ALUMNI NOTES.

E. A. Zahn, '77, has purchased the Ritter Pharmacy at 69th Street and Stewart Avenue, Englewood. Mr. Zahn was located for many years at 18th Street and Wabash Avenue, but for the last five years has managed Thiele's Pharmacy at 63rd Street and Lexington Avenue.

H. E. Gross, '94, has bought out T. A. Lemke at 80 East Chicago Avenue.

J. P. Wiltgen, '06, has purchased the drug store of B. L. Roos, '78, at 741 Wells Street.

D. T. Cropp, '06; James Patejdl, '05; M. J. Seibrandt, '05, and C. G. Stegmayer, '02, became registered pharmacists at the November examination.

JUNIOR NOTES.

President Porter and about a dozen members of the executive committee of the Illinois Pharmaceutical Association, visited the school December 4th. Upon entering the pharmaceutical laboratory they were introduced to the class by Professor Hallberg. Mr. Porter addressed the class briefly and offered some advice and encouragement, which was received with a round of applause.

Krampff and Langenhan passed the state board examination for registration in November.

SENIOR NOTES.

BY P. O. MARTIN.

All of the boys from the University of Illinois Pharmacy School who went down to take the State Board, November 14 and 15 were successful in their efforts. Three passed for full registration, viz.: R. E. G. Zaleski, P. O. Martin and R. F. Haines.

Five passed for assistant Pharmacists, viz.: Henry Pfaff, Jr., Jacob Goodman, E. H. Behrensmeyer, W. J. Beyermann and Andrew Bakkers. We take off our hats to them.

Jacob Goodman received the highest marks in chemistry at the recent examination held by the State Board of Pharmacy.

Andrew Bakkers, the vice president of the class of '07 says his success at the State Board examination was due to the training he had received in pharmacy under Prof. Hallberg.

W. D. Hayes and J. E. Miles recently spent a day in Hammond, Ind., visiting friends; they reported a very good time.

A rumor is out that C. R. Yundt was almost arrested

the other night, having left his keys at home before going out to make a call. When he returned he was obliged to climb in through a window, and in doing so aroused the suspicions of a policeman who was about to arrest him. He finally convinced the policeman that he was not a burglar but belonged at that address so that the incident ended fortunately.

The school was closed November 23 on account of Mr. Ebert's funeral, which was held at the college.

The boys made Rudolph, the janitor, happy by presenting him with a big turkey for Thanksgiving.

Mr. Eisele and others are preparing to write a book on "The mystery of the Coatroom" or "Who Broke the Table."

Mr. Hugh McNair and Mr. Snow had an earnest discussion recently about the difference between Rubber Plaster and Adhesive Plaster.

The class has decided on the class pins for this year and 48 have been purchased. The boys are very anxious to see the new pins which are expected soon.

Arrangements have been made with Willard-Jones for the class pictures; the students will wear gowns but no caps. The picture committee consists of Miss Reisman and Messrs. Cassin, Pfaff and McCabe.

The class of '07 will give a banquet the 21st of December, and no doubt it will be a great success. The entertainment committee, consisting of Howell Johnston, Reuter, Behrensmeyer and Ellsworth have the affair in charge.

The committee on invitations, comprising Messrs. Lee, Bickford and J. E. Miles, will soon have to get busy.

The executive committee has charge of the class pins; its personnel is Blahnik, Nelson, Mendelssohn, Schumm and Buerkett.

Frank W. Carlyle visited his home folks the early part of the month. He reports everything lovely at Bellflower.

Belladonna Plasters were being made in the pharmacy laboratory, and a suggestion was offered by Prof. Hallberg that everybody wear one and get the therapeutic effect.

TO THE MANY FRIENDS OF A. E. EBERT.

The Chicago Veteran Druggists Association at its last meeting took the initiative towards a suitable memorial for the perpetuation of the memory of A. E. Ebert by subscribing \$500 and appointing the undersigned committee to ask contributions from Mr. Ebert's friends in the pharmaceutical, retail, wholesale or manufacturing branches. We hope we do not have to persuade you to believe with us that a monument to A. E. Ebert is paramount to a monument to pharmacy, and in order to erect such a monument or memorial, we ask all of Ebert's friends to contribute according to their heart's dictations; we would rather have a splendid monument raised by contributions from every druggist in Cook County than have the same amount raised by ten well to do subscribers. Ebert loved the masses—and the masses should honor him, not the few. Send your check, small or large, to our treasurer, Mr. O. F. Fuller.

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